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ORIGINAL ARTICLES.

OCULAR HEADACHE.

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Ocular headache may be defined as pain or distress in the cranium and face, which is the reflex expression of some abnormality in the visual organs or in the performance of their function. Oculists had long been familiar with the fact that disorders of the refractive apparatus of the eye would occasion cerebral discomfort and pain, but it had not occurred to physicians to look for eye defects to explain headaches whose origin was obscure, until S. Weir Mitchell brought the subject prominently forward in The Medical and Surgical Reporter, August, 1874, and later in the *Amer. Jour. of the Med. Sci.*, April, 1876.

The points made by him were:

1. That many headaches are caused indirectly by defects of refraction or accommodation.

2. That in these instances the brain symptom is often the only prominent indication of the eye trouble, so that there may be no ocular pain, but the eye strain is expressed solely by frontal or occipital headache.

3. That long-standing eye troubles may be the unsuspected cause of nausea, vertigo and insomnia.

4. That in many cases the eye trouble becomes suddenly injurious, owing to a breakdown in the general health or to increased sensitiveness of the brain from mental or moral causes.

The knowledge is now so universally accepted that the writers upon the subject are legion.

Bickerton found headache a distinct symptom in 277 cases out of 1,000 in which refractive errors existed.

Ranney describes cases of sick headache relieved by correction of eye strain, and says: "I have yet to meet a case of typical migraine in which a marked error of refraction or a serious muscular anomaly in the orbit did not exist." He also concludes that there is a relationship between anomalies of visual apparatus and the neuropathic tendency; proving by records that eye defects are found in a large proportion of these subjects, many of them congenital and inherited. That chorea, epilepsy and insanity even have been cured by remedying ametropia and muscular deficiencies is abundantly substantiated by many good authorities.

Charcot finds ophthalmic migraine divisible into two classes:

1. Simple, manifested by headache and visual disturbances; and

2. Concomitant, with aphasic, sensory and motor disturbances in addition.

Stevens has arrived at the following conclusion: "Difficulties attending the functions of accommodation and of adjusting the eyes in the act of vision, or irritations arising from nerves involved in these processes, are among the most prolific sources of nervous disturbances, and more frequently than any other condi-

tion they constitute a neuropathic tendency."

The study of the nervous supply of the eye and of its intimate connection with that of surrounding structures makes the phenomena of reflex headache seem very reasonable, when we remember that an irritation set up in any nerve gives rise to the greatest variety of disturbances in any or all the other parts of the organism. Six of the twelve pairs of cranial nerves send branches to the organ, and the second, third, fourth and sixth are distributed to it exclusively, and there is a still further supply by twigs from the cervical and cerebral sympathetic nerves. The retina and optic nerves originate as buds from the anterior cerebral vesicle, and retain respectively the structure of a ganglion and of a cerebral commissure. There is an exceedingly intimate connection between the blood and lymph circulations of the eye and of the cerebrum; therefore it is not to be wondered at that the visual organs frequently become delicate exponents of intra-cranial changes.

In accordance with these facts, it may be stated as an axiom that it is imperative in all cases of cerebral disease to examine the interior of the eye with an ophthalmoscope, even if the patient declares his sight perfect and that he can read small type readily. It is in this examination alone that we can see a living nerve and observe the vascular and nervous changes going on, which are a picture in miniature of the condition of the brain itself. In the emmetropic eye, distant vision is accomplished without any effort of the ciliary muscle; but in the hypermetropic eye the accommodation must be brought into use to bring even the parallel rays to a focus on the retina, and of course for all near work a much greater effort is required.

It is thus a fact that the hypermetropic eye is never in a state of rest while exercising the function of vision, as is the emmetropic eye when viewing distant objects.

In the myopic eye no distinct image can be had on the retina unless the object is brought nearer than infinity (which for optical purposes is represented by 20 feet). The parallel rays form circles of diffusion on the retina if distant vision is attempted.

In presbyopia, accommodation is rendered exceedingly and increasingly difficult by the crystalline lens losing its elasticity.

The excessive and continued strain upon the muscles of accommodation is a fertile source of exhaustion and irritation.

Hypermetropia and astigmatism, alone or combined, requiring the greatest strain, are more often the cause of reflex disturbance than is myopia.

A pair of normal eyes accommodated for a given distance will converge for the same distance and thus produce a single clear image.

If the eye be hyperopic, a greater nervous impulse and more active muscular contraction must occur in accommodation than in the normal eye.

For instance, if a hypermetropic eye is accommodated for one meter distance, it may require twice the energy necessary in a normal eye. Then if the effort at convergence is equal to that of accommodation, and the eye is focussed for one meter distance, the axes of the eyes will meet at a much nearer point; the eyes are not adjusted in their axes to the point for which they are focussed, and confusion results. It is to this great nervous perplexity more than to the muscular effort that the consequent exhaustion and irritation must be attributed.

The principle may be illustrated by a young person who attempts to use a pair of strongly magnifying glasses and finds, if continued for any length of time, the result to be vertigo, nausea and vomiting. That this result does not occur if only one eye be used, proves that the disturbance is due to the effort at perfect binocular vision.

A difficult and more complicated perplexity arises in cases of astigmatism, and still other nervous confusion is the result of myopia.

The symptoms arising from eye strain are many and varied.

The pain may be paroxysmal in character, or continual and subject to exacerbations, which are frequently brought about by worry, excitement, overwork, or any cause tending to lower the vitality. The most usual seat of pain is in the temples, supra-orbital and occipital regions, more rarely at the vertex. It may extend down the cervical region to the scapulæ. Gastric symptoms are frequent concomitants, and deceive the patient as to the origin of the suffering. There is present in a large proportion of cases a general nervous irritatability, and even a fear of impending insanity. In all forms of ocular headach

there will be found asthenopia, nausea and vertigo in varying degrees. Where insufficiency of the internal recti muscles exists, sensory disturbances are frequent in the occiput, nucha, shoulders and back. Where insufficiency of the other recti is prominent, vertigo, diplopia and confusion are marked symptoms. In hyperopia and hyperopic astigmatism, the frontal headache is of most frequent occurrence. In myopia and mixed astigmatism, frontal, temporal and general headaches are about equally common. In cases combining hyperopia or myopia with presbyopia, frontal, temporal and occipital pain with vertigo are the phenomena observed. In pure myopia and presbyopia, nervous symptoms are seldom present.

The diagnosis of the etiological factor of headache is one of the most difficult problems a physician is called upon to solve. The number of different conditions upon which it may depend is legion.

Each case of headache (except, of course, those depending upon an evident febrile state) should be carefully and systematically studied. The habits, occupation, diet, and every detail as to mode of life should be ascertained. The family history should be inquired into, the urine carefully and repeatedly examined, and the state of the heart, blood, and especially of the eyes ascertained. In obscure cases, all possible sources of peripheral irritation should be considered, and malingering should not be forgotten. Some cases require the coöperative skill of several specialists (neurologist, gynæcologist and ophthalmologist) in order to investigate every clew in a thoroughly scientific manner.

The eyes should be examined as to the efficiency and balance of the muscles.

The test of refraction can only be accurately made, especially in a child, by the use of atropine to paralyze the accommodation.

A distinction must be made between a true ocular cephalalgia, in which the eyes are at fault, and the neuro-ocular cephalalgia, which is really due to an abnormal systemic condition (as neurasthenia, hysteria, or anæmia) in which the symptoms are called out by the use of the eyes.

The prognosis of headache dependent upon eye troubles is very favorable.

Stevens has treated 1,280 cases of chronic headache, and reports that permanent relief followed the correction of the ocular difficulties in 83 per cent. of the cases, improvement followed in 12 per cent., and failure in 4 per cent.

He also says of these cases that they were all typical cases of chronic headache, no cases of simple asthenopia or temporary headache being included.

He further remarks that in these cases no drugs were administered, so that nothing could be ascribed to the influence of medication, and that the results must be attributed solely to the removal of difficulties incident to the performance of the visual act.

It is to be observed also that the relief was not due to temporary stimulation of the nervous energy, as might result from electricity, drugs or a change of air or surroundings.

Norton reports a number of cases in which prompt improvement and relief of asthenopia and headache followed the correction of as low degrees of astigmatism as 25 D.

The essential element of the treatment is, of course, to remove the cause.

Correct refractive errors by proper lenses accurately adjusted.

The remedies for insufficiency of the recti muscles are:

1. Ocular gymnastics. This is accomplished by the use of prisms, and is soon followed by increased tone in the muscle treated.

2. Tenotomies and advancements of the muscles.

The use of eserine in cases of deficient accommodative energy is often of great temporary benefit. The instillation of atropine where the tension of accommodation is very great is often followed by immediate relief, and may, by removing a chronic condition of tension, give even permanent relief in some cases.

An important portion of the treatment is prophylaxis.

Children should have their eyes carefully examined before entering school. It seems a fitting subject for the State to consider the amount of suffering that might be saved and the increased capabilities that might be secured to its citizens as well as to those who are yet taxed without representation.

Outdoor exercise is of great benefit. Dr. Mittendorf says that many of his patients would be perfectly free from headache and able to lay aside their glasses could they

devote much time to outdoor muscular exercise, but if obliged to keep close in school, found glasses necessary.

He also refers to the fact that many people go through life hypermetropic and astigmatic without inconvenience, unless their health becomes impaired from some cause when asthenopia is manifested at once.

As a palliative measure a lotion composed of lavender, rosemary, camphor and alcohol is recommended as a local application to the closed lids and forehead.

The physician should never be persuaded to administer an opiate for a headache unless it be due to some incurable condition, as uræmia or organic cerebral disease. Hundreds of persons are rendered morphiomaniacs by the thoughtless administration of the drug for headaches.

LIST OF WORKS CONSULTED.

Angell—*Diseases of the Eye.*
Century Dictionary.
Da Costa—*Medical Diagnosis.*
Dana—*Text-Book of Nervous Diseases.*
Edmonds—*Diseases of Children.*
Flint—*Practice of Medicine.*
Foster—*Encyclopædic Medical Dictionary.*
Gray—*Anatomy.*
Hammond—*Diseases of Nervous System.*
Hare—*System of Practical Therapeutics.*
Hart—*Diseases of Nervous System.*
Hartridge—*The Refraction of the Eye.*
Hayes—*Diseases of the Nervous System.*
Keating—*Encyclopædia of Diseases of Children.*
Landois and Sterling—*Text-Book of Human Physiology.*
Landoldt—*Refraction and Accommodation of the Eye.*
Weir Mitchell—*Nervous Diseases.*
Niemeyer—*Practice of Medicine.*
Pepper—*System of Medicine.*
Putzel—*Functional Nervous Diseases.*
Sajous—*Annual of Universal Medical Science,* 1888.
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De Schweinitz—*Diseases of the Eye.*
Eustace Smith—*Diseases in Children.*
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Swanzy—*Diseases of the Eye.*
Soelberg Wells—*Diseases of the Eye.*

AMPUTATION OF THIGH—FRACTURE OF HUMERUS—SARCOMA OF CHEST—TUBERCULAR LYMPH-NODES.

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A week ago you saw an amputation of the thigh performed on this young woman to remove an enormous ulcerating malignant tumor. The dressing has not yet been changed, and I purpose doing so in your presence. After the patient was relieved of the constant poisoning from the horribly offensive mass, she improved rapidly, began to eat better and in every way justified the conclusion as to the necessity of operation. Her temperature has not reached 100° since the operation and has been practically normal since the second day thereafter. The stump was dressed without drainage and tourniquet was not removed till after the dressing was applied. You notice how little hemorrhage there has been. The outer layer of cotton is clean; only the iodoform gauze immediately over the skin has been moistened with blood. The healing is practically complete, although there is a narrow raw line where the flaps have not come entirely together. You will remember that the wound was sewed up rather loosely. The constant tremor of the stump is merely an indication of muscular weakness and is almost always observed. We will spray the stump with hydrogen peroxide solution and then smear it with sterilized petrolatum to prevent the dressings from sticking. The petrolatum is warm, having been recently sterilized. Iodoform is dusted over the stump and the dressing of iodoform gauze, bichloride gauze and cotton is applied.

If any vindication of modern surgical methods were necessary, this case affords it. Formerly, we used drainage in every case; now, acting on the belief that everything is sterilized at the time of the operation, we demonstrate our faith by making no provision for the escape of infectious material.

At the operation I told you that the woman gave no history as to the duration of the tumor. Since then she has told me that her foot was more or less sore for ten years; just how long a duration we may ascribe to the tumor, which was an osteosarcoma, it is impossible to say. The woman has suffered a sort of martyrdom to ignorance and poverty, though the lat-

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ter need not have delayed the time of her relief.

When I was house surgeon we had to dress such a stump as this morning and night. The patients were subjected to more or less pain and discomfort by the frequent dressings. The carbolized oil which was used did not insure surgical cleanliness or even freedom from odor, and even the increased expense of dressings was a matter of importance. After three or four weeks we expected the patient to recover. If this woman had anybody to look after her at home she could leave the hospital to-day, leave the dressing on for a couple of weeks, then discard it, putting on, perhaps, a simple compressive bandage which the instrument makers like to have used for some time before fitting an artificial limb.

FRACTURE OF THE HUMERUS.

This man presents an acute condition of the left arm and an old one of the right shoulder. Let us investigate this latter first, as it will not subject the patient to so much discomfort. You will notice a flatness of the outer aspect of the shoulder, indicating an almost complete atrophy of the deltoid. The arm is moved freely and the patient says he can lift it away from the body, but you will note that he does not do so except by moving the scapula also.

The patient sustained a dislocation of the shoulder which was not touched for several days. Then he entered the hospital and Dr. Parmenter reduced the dislocation, but found that the head of the bone would not remain in place, indicating that there was an extensive laceration of the capsule. Accordingly, Dr. Parmenter cut in along the outer border of the arm and put the head of the bone into place, sewing the capsule around it. The atrophy of the deltoid could not be due to the operation, for although the scar indicates that the muscle was divided longitudinally, the circumflex nerve which supplies the deltoid could not have received any important injury from the division of a few of its minute branches. The nerve lesion and consequent atrophy of the muscle must have been due to the bruising of the circumflex nerve trunk by the inward displacement of the head of the humerus.

Yesterday the patient fell down cellar, about six feet and a half, and sustained a severe injury to the other arm. In this instance we lose a very valuable surgical guide, the comparison of the injured with the normal limb. For example, the left shoulder in contrast with the atrophied right shoulder appears enormously swollen. In reality it is only moderately so. The left forearm is freely movable, but not the arm. Thus the aids to diagnosis are somewhat restricted. The line of the axis of the humerus seems to point to the coracoid process, and this might suggest a subcoracoid dislocation. At the place where the head of the bone would be found in this dislocation there is a visible swelling, and when I press deeply over it, it yields hard tissue as bone would. Moreover, when I rotate the arm with my hand on the swelling, there is no moving body there. Indeed, with a dislocation, we should find preternatural immobility, whereas here I find preternatural mobility at a point below the deltoid. Pressure at this point causes pain, as it would not do if there were merely a dislocation. I can still feel a globular, hard body in the normal position of the head of the humerus. On pressing firmly over this body it remains motionless while I rotate the arm and I get a distinct crepitus at the line of preternatural mobility. We will now try Dugas' test, which depends upon the possibility of having the nearly straight line of the humerus tangent to the cenoidal thorax at more than one point. The hand of the injured arm is placed on the opposite shoulder. Now, if the head of the humerus be in its normal position away from the ribs, the elbow will touch the chest, whereas if the head is dislocated so as to lie nearly against the thorax, the elbow will stand out from the body. An attempt to execute this test causes so much pain that I will not persist in it, more especially as the movement has caused a marked bending at the point where crepitus was elicited.

After two or three days the ecchymosis, which is not now conspicuous, will be very apparent.

The forearm is held flexed against the chest, and a rubber adhesive strip is applied along the posterior and the anterior surfaces of the arm, leaving a long loop at the elbow. A narrow strip is wound spirally around the arm so as to hold the first in place. Over this a roller bandage

is applied and carried down in a few spiral turns below the elbow. We will attach a pulley to the side of his bed, and connect a weight with the loop so as to extend the arm. Probably from five to eight pounds will be necessary, enough, at any rate, to rectify the position of the limb in half a day by tiring the muscles into relaxation. After five or six days the patient will be able to get up, and, if the bone is then in good position, we will put on a Hamilton splint or bind the arm to the body, and let him walk around carrying a weight at the elbow.

SARCOMA OF THE CHEST.

The next patient is a man of forty with an enormous semi-solid tumor firmly attached to the thorax, which, he says, has been growing nearly seventeen years, and he has at length made up his mind to have it removed. His deliberation reminds one of the man who was confined in a little village jail for a number of years and then was struck with the happy thought to open the window and jump out.

From the patient's statement that the tumor originated in a small movable nodule, I believe that the growth was extrathoracic, but as it has gradually increased, it has became adherent to the bony structures and has doubtless involved the thoracic wall to some extent. I hope it has not also grown inwardly from the ribs, and in this hope I am encouraged by the circumscribed area affected. The tumor occupies the position of a left breast; it is hard and almost spherical, feeling like a croquet ball imbedded in the flesh.

On making the first incision, the knife plunges unexpectedly into a cystic pocket from which a quantity of dark, grumous material exudes. Perhaps you noticed that the ether caused a marked cyanosis. This has been relieved by the flow of venous blood from the wound. At the same time the signs of returning consciousness compel the administration of more ether.

I judge that the contents of the tumor are sarcomatous, broken down in places. A chisel will be necessary to separate the bone. In the lower part of the tumor the growth is osteo sarcomatous. The base of the tumor is so infiltrated with sarcomatous elements that it is impossible to effect a complete removal. The wound is closed with silkworm-gut sutures.

TUBERCULAR LYMPH-NODES.

This child presents an enormous enlargement of the cervical lymph-nodes and of the tonsils, which are of the same essential constitution. The latter are so swollen that it is difficult for him to swallow.

The mother also says that there are other enlargements apparent and that her physician has discovered like enlargements internally. In the left axilla I find the nodes enlarged, but not in the right. There is none discoverable in the groin. The mother's statement that there were enlarged lymphatics all over made me think of Hodgekin's disease or malignant lymphoma, which is a better term. In this disease the lymphatic enlargements are extensive, the spleen is enlarged, there is a decrease of red blood corpuscles and a relative but not actual increase of whites. Thus the diagnosis may depend largely on the microscopical examination of the blood. I am inclined to think, however, that the lesion is tubercular. If the case proves to be one of Hodgekin's disease I shall give Fowler's solution, increasing gradually to the point of tolerance, giving perhaps twenty-five drops a day, preferably in one dose hypodermatically. If the case is tubercular this treatment will be of value only as a general tonic. The removal of so many masses, even on the cadaver, would require two hours or more. In the living child such an operation is altogether too formidable. If the masses are tubercular we will give guaiacol internally and inject zinc chloride solutions into the nodes, hoping to get a bactericidal action or, at least, a condensing inflammation.

The case well illustrates the fallibility of snap diagnoses; that of malignant lymphoma would depend on entirely false premises, *i.e.*, the statements of the mother as to the widespread traces of disease.

Intra-Venous Saline Injections in Uremic Coma.

Dr. C. T. Parker (*Medical Record*) reports that at the Chambers Street Hospital, New York, this method of treatment is used in all subjects of uremic coma, and found to answer better than any other. If the patient is plethoric, it is supplemented by the taking of blood from the other arm. The injection is made into one of the veins at the bend of the elbow, one or two quarts of the saline being used.

COMMUNICATIONS.

FRACTURE OF THE LOWER END OF THE RADIUS.*

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As ordinarily met with, fracture of the lower end of the radius is the result of "cross-breaking strain" consequent upon over-exertion of the hand upon the forearm. Force received upon the palm, carried up through the os magnum and the projecting line of junction of the scaphoid and semi-lunar, if sufficient to break the radius must do so in a more or less longitudinal direction, not transversely. Overbending of the forearm bones may, and at times does, cause fracture of the radius which is approximately transverse; but the level of the break is always higher than that of the common "wrist fractures."

Experimentally, by over-extension, every variety of the fracture under consideration can be produced, from the simple crack through the articulating extremity to a separation and displacement of the carpal fragment equal to that of the most severe injury coming under professional care. Whatever its degree, displacement is due to the secondary action of the anterior radio-carpal ligament upon the fragment already dragged off from the radius; and it is in the majority of cases largely maintained by the binding force of an untorn dorsal strip of periosteum, as originally shown by Pilcher. Much has been written, and more said, respecting impaction of the dorsal compact edge of the lower end of the upper fragment in the cancellous upper surface of the lower fragment; and proof of its existence has been found in inability to properly adjust the fragments by traction upon the hand in the direction of the long axis of the forearm. But, unless it may be under very unusual conditions, a force sufficient to pin the upper fragment in the lower would be sufficient to and would split the lower fragment into two or more pieces and consequently prevent impaction. The resistance to replacement by direct extension is, in the great majority of cases, probably in all, not in any fixation of the upper in the lower fragment, but in the untorn periosteal band already mentioned. Only when such band is absent because of complete laceration at the time of injury, or it has been torn by the dragging force exerted through the hand, can proper apposition be secured by such manipulation. But if instead of pulling upon the hand it be over-extended, brought, in other words, in the position in which the fracture occurred, any existing periosteal band is at once relaxed; and the moderate pressure upon the upper end of the lower fragment is sufficient to carry this fragment into its proper place, at times with a very audible snap. Little or no pain is produced; no anesthetic is required; the securing of proper apposition of the fragments is the work of but a few seconds. Personally I have never had any difficulty in thus adjusting a case coming under care within twenty-four hours after receipt of the injury. If there is, as there certainly is at times, a fixation of the ulnar styloid process under or in the posterior annular ligament, such process will be set free either by simple over-extension or by such combined with rotation. Once properly apposed, there is practically nothing other than outside violence to produce a secondary displacement. The weight of the dropped hand strongly tends to maintain apposition, and additional security is afforded through the action of the tendons crossing over the line of break on the palmar and dorsal surface. The supinator longus through its styloid attachment does without doubt act upon the lower fragment, but such action is too feeble to cause displacement.

Proper adjustment (and the earlier it is effected the better) will prevent or greatly limit effusions, exudations and adhesions. The unfortunate result, at times observed, which has been attributed generally to age, to rheumatic or gouty habit, to too short or too long employment of splints, to improper conduct on the part of the patient or carelessness on the part of the doctor, is commonly, very possibly always, due to

* Trans. Surgical Section Amer. Med. Ass'n, 1894.

imperfect adjustment at the time of the original dressing; the displaced lower end of the upper fragment making such pressure upon the soft parts upon the palmar surface near the wrist as to interfere with both arterial and venous circulation, especially the latter, and that not only directly but indirectly through the induced nervous disturbance. Under such circumstances the ordinary treatment by splint and bandage only makes a bad matter worse, the vessels and nerves being compressed between bone and board. That which is absolutely essential to thoroughly satisfactory repair is early and complete adjustment. This is one of the few fractures in which the chief difficulty lies in securing, not maintaining, apposition. Once secured, only the simplest after-treatment is really required, a band around the wrist perhaps, to lessen the after-spreading due to separation of and later somewhat misplaced attachment of the inter-articular cartilage.

In view of possible after-ligation, as professional opinion is now, it is wiser as a rule to employ some form of splint, plaster-of-paris or other, never extending below the wrist line and thus supporting the hand, which should be allowed to hang free. But the use of such splint is not necessary so far as the break is concerned, provided (and this proviso must be kept constantly in mind) complete apposition of the fragments is secured.

Its manner of production well understood, the difficulties in the way of primary adjustment duly recognized, and the first dressing properly made, this fracture becomes one of the simplest to treat, causes little inconvenience, comparatively, to the subject of it, and is very satisfactory in its end-result.

TRANSLATIONS.

THE FACTORS OF ANEMIA IN DISEASES OF THE RESPIRATORY PASSAGES.

Chabory (*Le Progrès Médicale*, June 16, 1894) remarks that the respiratory apparatus, the organs of the absorption of oxygen, supplies an indispensable unit in the complete evolutions of the red corpuscle. Thus there may be noticed in most of the diseases of the respiratory tract an anemia, the principal factors of which are the following:

Diminution in the caliber of the air-passages. M. G. Sée noticed in 1888 a pseudo-anemia from respiratory inanition. M. Balme has remarked the pallor of children who have a hypertrophy of the palatine tonsils; in young girls the menses appear late, are scanty, and are easily suppressed for long intervals. He adds that not only are the children pale and debilitated, but they are subject to an extreme prostration; the free entrance of air into the chest being prevented, the thorax cannot dilate itself as it should, and the normal and necessary ration of air is not received.

Diminution in the air-absorbing surface and interference in the capillary circulation. If the air-absorbing surface is restricted the quantity of oxygen passing into the blood is diminished, and the circulation of blood in the capillaries is retarded. The lesions of the lungs which hinder hematosis are bronchitis, due to infiltration and thickening of the bronchial mucosa, obstruction of the bronchi, and the covering of their inner wall with muco-pus; asthma, in which there are vasomotor troubles with crises of expiratory spasm; whooping-cough, with the lesions of bronchitis; in congestion, in which there is a flattening of the alveoli by the engorged capillaries; in edema, with serous infiltration of the alveolar walls; in apoplexy, from thrombosis or embolism, in which there is a suppression of a part of the respiratory filter which diminishes hematosis. In emphysema there is a sclerosis of the inter-alveolar walls, absence of contractility of these walls, and consequently a retention of air in the alveoli; in pulmonary sclerosis there is also

a thickening of the inter-alveolar walls; in cancer and tumors of the lung and pleura, there is an invasion of the pulmonary parenchyma by the tissue of the neoplasm; in pleurisy, pneumo-thorax, hydatid cysts, there is compression of the lung, flattening of the alveoli and atelectasis, which diminishes the gaseous exchange. The lungs of broncho-pneumonics present the lesions of bronchitis, of capillary bronchitis; in these patients a whole lobe or a whole lung is hepatized, not permitting the entrance of air to the blood. Acute granular phthisis, characterized anatomically by a multiplicity of miliary granulations, which produce a perinodular hyperemia, a congestion and splenization.

Febrile affections of the respiratory passages. All febrile diseases are accompanied or followed by an anemia, more or less durable and grave, the degree of which is proportionate to the intensity and duration of the fever.

Benign and malignant neoplasms of the respiratory passages. These tumors diminish the caliber of the air-passages, the seat of hematosis, and thus resulting in anemia. Moreover, there is an anemia symptomatic of cancer, whatever may be its seat and its complications, resulting from a diminution in the number of red corpuscles, an increase in the number of white corpuscles, pronounced corpuscular deformity and a decrease in the weight of the solid constituents of the blood.

Hemorrhages of the respiratory passages. These are a cause of anemia, the gravity and duration of which depend upon the amount of blood lost and the frequency of the hemorrhages. The anemia consecutive to these hemorrhages is a true insufficiency in the blood-mass and has been termed oligemia or spanemia.

Pathologic secretions of the respiratory mucosa. The extended surface of the respiratory mucosa becomes covered in certain diseased states with a very abundant secretion, and this secretion is in part a nidus of infection and also a source of spoliation and loss for the entire organism. All suppurations are accompanied or followed by anemia. The more extended the suppurating surface and the more abundant the suppuration the graver the anemia.

Troubles in other organs provoked by affections of the respiratory passages and the causes of anemia. Chronic diseases of the lungs, among others, emphysema with or without catarrh, asthma, chronic pulmonary phthisis, cause dilatation of the right heart, its fatty degeneration, disorders of the circulation, and consecutive modifications in the composition of the blood. Digestive troubles complicating nasal, bronchial and pulmonary affections are very common and very lasting, and these undoubtedly react upon the composition of the blood. Nervous phenomena, such as cough, cephalalgia, insomnia, depression, hypochondriasis, which accompany a number of respiratory affections are equally factors of anemia, as are also long confinement to bed and the rest necessitated by the great weakness of the patient or the dread of hemoptysis.

Composition of the blood in diseases of the lung. In bronchitis the hemoglobin does not fall below 100 grams. In acute pneumonia Quinquaud has noticed that destruction of hemoglobin occurs in the course of the febrile stage; moreover, during the febrile period the serum becomes impoverished in solid materials. In pulmonary emphysema there is also a diminution in the amount of hemoglobin.

To conclude, the author finds that the factors in the anemia in diseases of the respiratory tract are: 1. Diminution in the caliber of the air-passages. 2. Diminution in the air-absorbing surface and interference with the capillary circulation. 3. Fever. 4. Neoplastic evolutions (cancerous) of the respiratory tree. 5. Hemorrhages of the respiratory tract. 6. Pathologic secretions of the respiratory mucosa. 7. Diseases provoked in other organs by affections of the nose, bronchi and lungs.

D.

Cerebral Edema.

Dr. George J. Preston draws the following conclusions in his paper on cerebral edema, in the *Journal of Nervous and Mental Diseases:*

1. Cerebral anemia should receive recognition, both from the clinical and pathological standpoint.

2. Edema of the brain follows the law of edema elsewhere in the body, with the important exception that these laws must of necessity be considerably modified by the anatomical arrangement of the lymph spaces of the brain and its membranes.

3. The effused serum may exert injurious mechanical pressure, and also offers occasion for toxic influences.

CORRESPONDENCE.

STATUS THYMICUS—GONOCOCCI IN GONORRHŒA—TREATMENT OF MALARIA WITH METHYLEN BLUE—EXPERIMENTS WITH TOLYPYRIN AND TOLYSAL.

VIENNA CORRESPONDENT TO THE MEDICAL AND SURGICAL REPORTER.

STATUS THYMICUS.

Dr. T. Schnitzler, Assistant to Professor Albert in the General Hospital, reported on this interesting subject before a recent meeting of the Imperial Royal Society of Physicians of this city. The case was that of a woman, 31 years old, who was suffering from a severe case of Grave's disease. As strumectomy in Grave's disease was performed with good success by several surgeons during the last years, Dr. Schnitzler also decided on that operation. He performed the extracapsulary extirpation of the whole of the right part of the goitre as well as the middle lobe, which was greatly developed, and almost two-thirds of the left lobe. After operation and the application of the dressings the patient's respiration was quite normal, and she also showed reaction to irritation. A quarter of an hour later the respiration suddenly assumed another character; it became flat, and some minutes later the respiration as well as the pulse were quite abolished, and the pupils became maximally dilated. Attempts at revival were in vain and the patient succumbed.

The post-mortem examination revealed the presence of that condition of the body which Prof. Arnold Paltauf has called "status thymicus." They found a considerable persistency of the thymus; and all the lymphoid formations, such as the lymphatic glands, the tonsils, the follicles of the intestines and those of the base of the tongue as well as those of the spleen, were considerably enlarged. There was, moreover, a considerable narrowness of the aortic system; the heart was found to be dilated; red-colored marrow was detected in the large parts of the tubular bones; the brain and the lungs were in a state of anæmia.

From the works of other authors, and particularly those of Professor Arnold Paltauf, it resulted that the condition of the body referred to above—the so-called "status thymicus"—was characteristic of a particularly impaired resistence of such individuals. Professor A. Paltauf has also shown that the opinion according to which death in such cases was due to suffocation by pressure of the enlarged thymicus, was not correct. In cases of the so-called "deaths in narcosis," the "status thymicus" also played a most important part; this was proved by the researches of Professor Richard Paltauf in the Vienna Anatomo-Pathological Institution, and also by the fact that in two cases of "death in narcosis" which had occurred during the last year at Professor Albert's clinic, the post-mortem examination held revealed the presence of the "status thymicus."

The case reported by Dr. Schnitzler was, within a proportionately short interval of time, the third case in which a patient operated on for Grave's disease died as the direct result of the surgical interference, and where the post-mortem examination could prove the persisting condition of the thymic gland. Bardeleben and Gluck also reported, each, on a similar case. Gluck seems to attribute the death in such cases to suffocation owing to pressure of the enlarged gland, whereas Dr. Schnitzler pointed out that the fatal issue in such cases, including those of Bardeleben and Gluck, was to be explained in the way referred to above—that is to say, as the result of an impaired resistance of the organism.

ON THE EVIDENCE OF GONOCOCCI IN GONORRHŒA.

Docens Dr. Finger made a valuable contribution on this subject to the same society. "Wertheim," he said, "was the first to cultivate gonococci on human

blood-serum by means of plate-cultures." This method was, however, too complicated, and Dr. Finger found the cultivation of gonococci on "urine-agar" to be the best one.

As to the biology of the gonococcus, it must be remarked that an acid soil of culture suited it better than a weak alkaline one. The gonococcus began to develop at a temperature of more than 25° C., and a temperature of 36° C. proved very favorable, whereas that of 40° C. killed it. The gonococcus was sensitive to drying processes.

The vitality of the gonococcus in gonorrhœal pus was of great importance from a practical and medico-legal point of view. Cases of transmission of gonorrhœa by means of polluted shirts had been recorded by several authors; this, however, Dr. Finger pointed out, was only possible so long as the pus was not dried up. Gonorhœal pus, so long as it was not dried up, gave positive results, and frequently these results were obtained after thirty-six hours. When the pus was dried up, he could no longer succeed in obtaining cultures, even after moistening with sterile water.

The gonococcus was little sensible to chemical agents. The action on it of nitrate of silver (1:1000) and sublimate (1:6000), during two minutes, could not kill it. Cultures thus treated still gave positive results on inoculation.

As to the question concerning the immunity of urethritis against new infection, the lecturer remarked that in three cases of cured acute urethritis and two cases of chronic urethritis, the inoculations with gonococci gave positive results which could also be confirmed by microscopical examination. These inoculations proved, at the same time, that the gonococcus really was the pathogenic agent in gonorrhœal processes.

Dr. Finger then discussed the question of the relation of the gonococci to the inflammatory foci. In many cases he succeeded in producing the symptoms of acute inflammation of the joints by means of inoculation. In these cases, as well as in those of circumscribed peritonitis, the presence of gonococci could no longer be proved after twenty-four hours. In the cases of eight patients, with imminent fatal issue, the inoculation gave, on three occasions, a positive result, whereas in the five other cases the result was negative. In the first mentioned cases there was no fever, or only a slight one, whereas in the other instances there was considerable elevation of temperature. It was a well-known clinical fact that febrile temperatures had an influence on the course of urethritis, viz., it made the secretion stop, which afterward appeared again. The high febrile temperature thus seemed to confer a temporary immunity against the gonococci, and the immunity of mammals also seemed to be explicable by their having higher temperatures than man.

As to the relation of the gonococcus to the tissues, the lecturer pointed out that Neisser, of Breslau, had opposed his opinion that the gonococci quickly penetrated into the connective tissue. This was, however, found to be the fact in many anatomical examinations of such cases. Frisch had met with gonococci in the glands and the connective tissue of a case of gonorrhœa of the rectum. He even detected them in the surrounding muscles.

With regard to the complications of gonorrhœal infection, he said that they had formerly been looked upon as the product of a mixed infection until Dr. Wertheim had shown that these complications were solely due to the gonococcus. Gonorrhœal arthritis was the most frequent complication, and was, in most cases, to be met with in the primary forms of gonorrhœa. In the case of a boy eight days old, who was suffering from ophthalmoblenorrhœa with gonitis, numerous gonococci were found on puncture of the joint.

Respecting the coloring of the gonococci, the lecturer said that the coloring with borax-methylenblue was the simplest method. The microscopical sections were placed in a mixture of 5 parts of borax and 5 parts of methylenblue in 100 parts of water; then they were washed and discolored in a one-half per cent. solution of acetic acid, and finally kept for a short time in alcohol, Bergamot oil and Canada balsam. These specimens were very sensible to the decoloring influence of alcohol, but less so to acids. The specimens under consideration had, however, the disadvantage that they lost their color after from three to four months.

Dr. Finger arrived at the following conclusions:

1. The gonorrhœal rheumatism is a

true gonorrhœal affection caused by gonococci.

2. The gonococci are also found inclosed in pus cellules in inflammatory processes.

3. The gonococci are able to produce true suppuration of the connective tissue.

4. The view that the gonococcus has an exceptional position, inasmuch as it only produces superficial catarrh of the mucous membranes, must be entirely given up, and the gonococcus is quite analogous to the staphylococcus, the streptococcus and the micrococcus pneumoniæ.

THE TREATMENT OF MALARIA WITH METHYLENBLUE.

Dr. W. Dombrowski reports, in a recent number of the Polish medical journal *Gazeta Cźarska* upon his experience in the treatment of malaria with methylenblue. He had treated five cases of malaria by means of this drug. In the first case 5 grammes of methylenblue were administered within ten days; the drug was well supported. The plasmodia disappeared, the temperature decreased and the spleen diminished in size. In the second case under consideration, the plasmodia also disappeared, and the attacks of the disease were stopped. In the third case, 2.5 grammes was the total amount given; no plasmodia could be detected any longer, and no attack was presented during the last three days of the patient's sojourn in the hospital. In the rest of the cases the success was a similar one.

The treatment with methylenblue was commenced at different stages of the disease, and it was indifferent for the therapeutical success as to whether the drug was administered before, during or after the attack. One attack, however, invariably occurred after the administration of methylenblue, but this attack was generally less severe than the foregoing ones, *i.e.*, without rigors and perspiration, and only characterized by slight elevation of temperature. It was only in two light cases that the methylenblue immediately stopped the attacks. In other cases the drug had to be given for at least forty-eight hours in order to remove the attacks.

Out of eleven respective cases which Dr. Dombrowski had an opportunity of observing, ten were entirely cured. In the eleventh case under consideration, the fever, indeed, disappeared, but plasmodia could be proven to be present in the blood after seven days from the last attack, and the spleen was still rather enlarged.

Dr. Dombrowski concludes, from the uniform good results which he had obtained in the cases now referred to, that methylenblue may be considered to be a specific remedy for malaria. The most essential property of this drug consists in killing the plasmodia. As to the bad after-effects, Dr. Dombrowski saw nausea and vomiting only in one case in which methylenblue was administered for a long time; otherwise the remedy was well supported. No albumen could be proven in the urine; the latter was merely of a blue color after the first dose of methylenblue.

EXPERIMENTS WITH TOLYPYRIN AND TOLYSAL.

Dr. Aladár Anjeszky, of Budapest, has carried out a number of experiments with tolypyrin and tolysal. As to the antipyretic effect of tolypyrin, it was observed that in the case of individuals who were free from fever, from 3 to 4 grammes of the drug—one gramme being taken every two hours—diminished the temperature only from 0.5° to 0.8° C., whereas in febrile patients the effect was very strong and prompt. The patients, according to the degree and the quality of the fever, received from 1 to 4 grammes of the remedy in doses of 1 gramme every hour. After the administration of the first powder the temperature was measured half an hour later, and later on every hour. In the case of moderate fever the temperature decreased after the administration of the first gramme of the drug, and after half an hour it diminished only some tenths of a degree. The decrease after three hours reached from 1° to 5° C. Some perspiration was in most cases observed at the beginning of the effect of the remedy. In slight fever one could obtain a state of apyrexy lasting from 7 to 8 hours with from 1 to 2 grammes, and when the temperature rose anew it was no longer accompanied with rigor. In high fever, from 3 to 4 grammes were required to produce apyrexy, but it then lasted for from 10 to 16 hours. Even in the stage of the acme 3 grammes of tolypyrin were able to lower the temperature from 40° C. to 36.8° C., and the patient remained free from fever during 14 hours. In one case of bilateral

infiltration of the apices of the lungs the drug caused a subnormal temperature of 34.8° C.

Among the concomitant effects produced by tolypyrin, the perspiration must be noted at first. The sweating was not very severe; only in the case of phthisis it used to be specially copious. Its duration varied, but generally it did not overlast the apyretic stage. Of gastric symptoms, nausea and vomiting were noted on two occasions; in one instance, urticaria was seen. In general, the drug was well supported by the patients. The tolypyrin failed to prove useful as an anti-rheumatic and analgesic.

With tolysal, *i.e.*, the salicylate of tolypyrin, the following results were obtained:

In individuals free from fever, the tolysal, when from 5 to 6 grammes of it were administered in hourly doses of 1 gramme, lowered the temperature only nine-tenths of a degree. In the case of patients with moderate fever, the temperature was not influenced by 1 gramme of tolysal. In order to produce an antipyretic effect, from 2 to 3 grammes of tolysal had to be administered in doses of 1 gramme every hour, whereas it had no effect when it was given every two hours. The decrease of the fever only occurred after the administration of the second dose (1 gramme), after from one-half to one hour, but this decrease did not amount to more than some tenths. A more intense effect was obtained after the third powder, but the decrease in this case did not exceed 1° C. From 4 to 5 grammes of tolysal, administered in doses of 1 gramme at intervals of one hour, were followed by a decrease of temperature of from 1½° to 2° C. In high fever, from 6 to 8 grammes had to be given to obtain an effect on the temperature; thus in a case of abdominal typhoid fever, 5 grammes of tolysal lowered the temperature only 1° C., whereas tolypyrin proved excellent in the same case.

Excellent results were obtained with tolysal in the case of rheumatism of the joints. In these cases the patients received 6 grammes of tolysal daily, and the effect was already on the second day a striking one; the pains diminished, the inflammatory symptoms of the parts and the fever disappeared, and the general condition improved.

Dr. Anjeszky arrives at the following conclusions:

1. Tolypyrin is a reliable antipyretic remedy.

2. Small doses of tolypyrin (1 to 2 grammes) cause an apyrexy of from 7 to 8 hours, and larger doses (3 to 4 grammes) one of from 10 to 16 hours.

3. Tolypyrin has no bad after-effects.

4. Tolypyrin has not proved useful as an analgesic.

5. Tolysal is but a weak antipyretic, and it exerts an influence only in large doses.

6. The antipyretic effect of tolysal does not extend over more than 4 hours.

7. Tolysal is an energetic anti-rheumatic, and may be substituted for salicylate of sodium where this cannot be borne.

8. In the case of pains of a rheumatic origin, tolysal exerts an analgesic influence.

Dietetic Treatment of Patients Threatened with Cerebral Hemorrhage.

Dr. Joseph Collins, in *Food:* The diet for these patients, varying as it must with individuals and their digestive peculiarities, should be mainly of carbohydrates, sparingly of hydrocarbons, and still more sparingly of nitrogenous food stuffs. The essential points to remember about the latter two are, that the first is given as an energy producer and as an aid in the complete oxidation of other food stuffs, and that when the last one is administered it should be seen that its complete oxidation is thoroughly performed. So much for the administration of the organic food stuffs. A word concerning the inorganic. Water, particularly, is necessary. The important part played by water in the treatment of arterial degenerations, particularly when such degenerations are dependent upon improper and insufficient metabolism, is not easily overestimated. The presence of it in the digestive tract, influencing as it does the rapidity of osmosis, filtration, and the other principles involved in absorption, and its effect in lowering the specific gravity of the blood after it is absorbed, are both very important, not to speak of its being the vehicle for the removal of most of the effete matters from the system. It favors absorption, facilitates oxidation, and promotes thorough metabolism. In all cases of arterial degeneration, with threatened cerebral apoplexy, water should be given in small quantities, frequently repeated, and should thus become a staple part of the diet.—*New York Med. Times.*

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Saturday, October 27, 1894.

EDITORIAL.

THE ETIOLOGY AND PREVENTION OF DIPHTHERIA.

At the Eighth International Congress of Hygiene and Dermography, at Buda-Pesth, there was a most interesting and instructive discussion on diphtheria, more especially on its etiology and prevention. The following summary of the conclusions by Loeffler is of much importance:

1. The productive agent of diphtheria is the diphtheria bacillus. Dispute as to the etiological definition of this bacillus exists no longer. We can, therefore, henceforth indicate as diphtheria such forms of disease as are infested with the bacillus.

2. Not infrequently cases appear in the early stages to the clinical observer as true diphtheria, which, however, are caused by other organisms, as streptococci, staphylococci, etc., and in light or graver form may be mistaken for true diphtheria. But the differential diagnosis can be made through bacteriological research. . . .

3. Diphtheria epidemics show a various character, as do many other epidemics of infectious disease. . . . In the same epidemic instances of severe and light forms of the disease frequently alternate irregularly.

4. The variations, of course, will be determined by several factors: (*a*) By difference in the number and virulence of the diphtheria bacilli; the causes of the latter are not yet absolutely known. (*b*) By concomitant bacteria, and, indeed, as much by pathogenic as saprophytic; the processes of infection with regard to the diseased mucous membrane in the passages and in the nose, appear to influence the course of the disease unfavorably, in part by increasing the virulence of the bacilli, in part by weakening the body through absorption of decomposed products. (*c*) By individual tendencies not yet thoroughly recognized.

5. The diphtheria bacillus can appear in the passages, especially of the nose, of separate individuals without causing indications of sickness, which it first induces when it has actually established itself. Lesions of the mucous membranes, small eruptions, catarrhal changes are favorable to its residence. In brief, meteorological conditions, giving admission by the first approach to catarrh, especially cold, damp weather, appear to favor the sickening from this cause. But this influence has to be more closely observed.

6. Diphtheria is most rapidly communicated by direct contact between sick and well, through spitting, coughing, sneezing, kissing and grasping of the hands, whereby the hands come into contact with fresh secretions, but also freely through utensils which the sufferer has fouled with his excretions, by beverages, food, eating and drinking vessels, cast-off clothes and other articles as pocket-handkerchiefs, playthings, even long after their actual infection.

7. The sick one is infectious so long as he has bacilli upon the mucous membranes. The bacilli usually disappear with or very soon after the disappearance of the local signs, but they may be detected still lively and virulent in the passages or nose for weeks or even months.

8. In organic matters condensed and excluded from light the bacilli can maintain themselves for a period of months outside the body. Accumulations of dirt, dark and closed dwellings favor thus the preservation of bacilli and the extension of disease.

9. As a specially noticeable vehicle for the extension of the disease is to be noted the crowding together of susceptible individuals, especially in families of many children. . . . Other gatherings may offer facility for the extension of the disease, such as schools, barracks and the like.

10. The diphtheria bacillus is so far not identified with certainty as the cause of other diseases similar to diphtheria, or of other spontaneous disease of lower animals. The possibility of the conveyance of true diphtheria from sick animals to human beings is thus outside of our present knowledge. . . .

11. The prophylactic means to be considered are: (*a*) Care for cleansing, keeping dry, sufficient ventilation and lighting of the dwelling; (*b*) Careful cleansing of the mouth and nose, gargling with weak solutions of common salt and carbonate of soda, thorough brushing of the teeth, extraction of bad teeth, attention to the deeper cavities of the tonsils and the removal of hypertrophied tonsils; (*c*) Cold douching of the throat in times of diphtheria prevalence.

12. Every case suspected as diphtheria must, when possible, be bacteriologically investigated. The physicians should have easy access to the materials for carrying on the culture work. The investigation should be carried on by a specialist, as in cases of cholera.

13. All cases proven bacteriologically to be true diphtheria, as well as all cases suspected as diphtheria, . . . should be dealt with under police regulations. [Strict isolation from other individuals and the most rigid disinfection carried out.]

14. In order to restrict as much as possible the spread of the bacilli by the sick, a local anti-bacillar treatment must be employed with a view to prophylaxis against the early stages of the disease.

15. One of the most effective means against the spread of diphtheria to be cared for, is the protective inoculation of susceptible individuals in the neighborhood of the patient, especially children. In proportion as the innocuousness of Behring's serum cure through preventive injection is established for curing or prophylaxis, it appears worth while to develop further, as far as possible, the art of inoculating it in families and in school classes in which diphtheria cases have occurred.

16. In every case of diphtheria disinfection is imperative. This is needed for all utensils for the sick. . . .

17. Convalescents from diphtheria must not mix freely with others (or children go to school) until bacteriological investigation has proved the removal of the bacilli, and the sick, after a warm bath with soap, have been thoroughly cleansed and have put on clean clothing.

18. On the outbreak of diphtherial epidemics notification should be given in the public press.

ABSTRACTS.

THE NOSE AS A FREQUENTLY UNRECOGNIZED CAUSE OF DISEASE.*

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Hitherto the nose has been rather a neglected organ. It has only been of recent years that we have begun to learn of the influence it exerts upon even remote parts of the body. That this neglect has occasioned a great deal of suffering which could have been prevented, is evident to all who have devoted themselves to nasal medicine. Unfortunately, nasal troubles being rarely accompanied by pain, are in consequence too often neglected by the physician as well as the patient, and a difficulty which might have been easily curable at first occasions a condition which may remain through life and even terminate in death. Naturally, those organs are affected which are either anatomically or functionally connected with the nose. It is connected anatomically with the organs of sight and hearing, with the throat and lungs as well as the cerebrum; indeed, the olfactory nerve is but a bulbous elongation of cerebral tissue containing gray matter.

Functionally, it is to be considered not only as a sense organ, but as having imposed upon it other duties. It drains the tears from the eyes, and through the Eustachian tube the mucous secretions from the ears; it aids in the function of hearing by allowing the sound to pass freely up the Eustachian tube; it prepares the air for the lungs by moistening and heating it and cleansing it from particles of dust; and in some way as yet unknown to us, exercises some control over the faculty of memory.

Considering the intimate relation existing between the nose and these other parts, it is easy to understand how widespread, and how subtle and yet serious may be the mischief occasioned by neglected disease of this organ.

Perhaps nowhere is its influence more often discernible than upon the air passages. Pharyngitis, tonsillitis, laryngitis, bronchitis, and even asthma, pneumonia and pleurisy are traceable directly to a want of the proper performance of the nasal functions as well as to a direct extension of the nasal inflammation. Pharyngitis and tonsillitis are often occasioned or aggravated by the irritation of the nasal discharges flowing constantly over the posterior wall of the pharynx. Simple catarrhal laryngitis and bronchitis are rarely found except in connection with head colds, and they are very difficult to cure, unless the nasal conditions be relieved; in fact unless these are relieved, the bronchial and laryngeal inflammations are prone to recurrence. How often do we hear of children who are, as we say, subject to bronchitis! Unless this tendency is checked, the child is apt to be stunted in his full growth, and in addition will probably show some chest weakness throughout life. Fully nineteen out of twenty such cases can be cured only by careful, systematic treatment of the nose in connection with the chest trouble. Pneumonia and pleurisy, when occasioned by nose disease, usually originate through mouth-breathing, preventing the proper preparation of the inspired air. This is more frequently the cause of these diseases than it is usually considered to be. That this want of proper preparation is very dangerous, is shown by the fact that the operation of tracheotomy is almost invariably followed by a pneumonia. It is true that by this operation the air is carried more directly to the chest than by mouth-breathing, but mouth-breathing exerts precisely the same influence as the tracheotomy tube, except only in a more limited degree. In mouth-breathing the surface over which the air passes, before it enters the lungs, is diminished to perhaps a little over half the normal, whereas after the operation of tracheotomy, it is diminished to less than one-third normal.

*From advance proof-sheets Codex Medicus Philadelphiæ, No. 1.

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What proportion of cases of asthma are caused directly and indirectly by nose disease, I have no means of knowing. That, however, it is not an infrequent cause, has been taught me by experience. Quite a large number of cases of asthma present markedly abnormal conditions, particularly bony and mucous hypertrophies, occasionally combined with polypi. I have been fortunate, in all the cases which I have treated, in at least relieving the asthmatic condition and, in a large proportion, curing it by careful nose treatment.

Perhaps next in frequency to the diseases of the air passages thus occasioned are the stomachic and often the consequent intestinal disorders; children, particularly infants, are especially the sufferers. The nose colds are accompanied by profuse discharges which are not gotten rid of by the mouth, as is usually the case with adults, but are swallowed and, fermenting in the stomach, give rise to cramp-like pains, vomiting and intestinal disorders, the food not being digested in consequence of the irritation of the stomach and intestinal walls by the products of fermentation. In this way arise many of the cases of inanition, cholera infantum, etc. In the adult, either through neglect or more often through the passing of the mucous discharge down the œsophagus during sleep, we are apt to have flatulent dyspepsia and an acid stomach; when the cause is unrecognized, these cases progress for years, until the disease is well-nigh incurable, on account of the changes which have occurred in the walls of the stomach, through the constant irritation by the ferments produced.

All practitioners well know that most diseases of the ears proceed either from an extension of nasal catarrh, or result from the closure of the nose which prevents the proper ventilation of the ear and the flow of mucus through the Eustachian tube. In this way, a closure of the tube is produced which results in an inflammation of the middle ear, often with involvement and perforation of the drum head, and even extension of the inflammation to the mastoid cells. These conditions are more prone to occur in the infant than in the adult, as the Eustachian tube, being so much smaller, is more easily occluded, and again, the bony walls being much thinner and more porous favor the ready extension of septic influences.

Upon the eye the nose exerts its influence by an extension of the inflammation up the ductus ad nasum, as well as by occlusion of the same. Thus are caused lachrymal abscesses and epiphora, catarrhal conjunctivitis as well as corneal troubles. Some authorities consider that phlyctenular conjunctivitis may be thus occasioned. I have frequently relieved severe persistent pain of the eyeball, as well as cases of asthenopia, by nose treatment, after the most careful eye treatment had failed.

Eczemas of the face, observed in patients suffering with nasal catarrh, especially as found in children, are rarely curable unless the nose be restored to its normal condition.

As illustrating cerebral symptoms occasioned by nose disease, I will mention severe, persistent headaches, giddiness, loss of memory and of ambition, and a generally demoralized condition of the mental faculties; all of these, in many instances, have been relieved by nose treatment. Perhaps the most marked and noticeable of these symptoms is the loss of memory, as it is now a well established fact that nasal troubles often profoundly influence this faculty. Perhaps there is no class of patients who are more grateful when relieved than those who are thus affected. The failure of memory, seeming to threaten the very foundations of the soul, brings close to the patient the possibility of that faculty being lost which enables him to be in close communion with his fellow-man—rationalism (or sanity). I am at present treating a most marked case of this kind. She feels as if she were already half insane; fortunately, decided improvement has occurred as a result of the treatment of the nose.

Even in epilepsy it is sometimes the determining factor. I know of two cases in whom the spasms disappeared, after careful nose treatment.

Hay fever, the exact pathology of which is as yet somewhat in doubt, which exhibits phenomena attributable to the nervous system, as well as such as originate in the air passages, has, in numerous instances, been cured by the removal of hypertrophies and polypi from the nostrils, and the contraction of the soft, congested, elastic nasal tissues.

In cases of general ill health of a mild type, presenting often some irritability of the throat, some slight stomachic disorder,

particularly flatulency with a tendency to constipation, with a sodden colorless skin inclined to be cold, with an inaptitude for exertion, especially mental effort, it will occasionally be found that these symptoms arise from partial nasal occlusion, with night mouth-breathing and consequent deficient oxygenation of the blood.

I trust even these few cursory remarks will prove the importance of the more frequent examination of the nose and its subsequent judicious treatment.

In all diseases of the ears should this examination be made. It will prove valuable in many cases of disease of the upper air passages as well as of the chest; particularly will its value be appreciated in studying these diseases in children. In cases of stomachic and intestinal disorders, the procedure should not be neglected. With children it should invariably be made. It is essential in many cases of diseases of the eyes. I believe it should not be omitted in obscure cerebral diseases, particularly if there be loss of memory. In obscure cases of ill health without any marked lesion, this examination should be made and will occasionally prove of great value.

In concluding the subject I will say that if the nasal examination and treatment advocated be made in the class of cases here indicated, I feel assured that the successes resulting from treatment will be greater than in the past, and unexpected and gratifying improvement will sometimes occur in cases that had failed to respond to one's best energies.

CRIMINAL RESPONSIBILITY OF THE INSANE.

The subject of "the law in relation to the criminal responsibility of the insane" has once more been placed before the public for discussion by means of a paper read before the British Medical Association at Bristol, in August last, by Dr. Lionel Weatherly. The answers of the judges in 1843 to the questions put to them by the House of Lords form the basis of the legal position taken up in criminal cases where the plea of insanity is urged. The direction given by the judge to the jury in such cases is that to establish a defense on the ground of insanity, it must be clearly proved that at the time of committing the act the party accused was laboring under such a defect of reason from disease of the mind as not to know the nature and quality of the act he was doing, or, if he did know it, that he did not know that what he was doing was wrong. The corollary to this juridical direction is stated to be that if the accused were conscious that the act was one which he ought not to do, and if that act was at the same time contrary to the law of the land, he is punishable. Objection has been urged time after time to this statement of the position; and the righteousness of decisions in individual cases where the judge has directed the jury strictly in the sense here given, and where the jury have followed that direction, has frequently been called in question with such vehemence as to lead to a remission of the sentence. In other cases, as Lord Blackburn put it, "the jury have taken the bit between their teeth," and defied the judge's guidance as to the law by their verdict, asserting their belief in the prisoner's insanity and irresponsibility. "We mental physicians," says Dr. Weatherly, "maintain that the existing law is wrong, and that it is not in accord either with our practical experience or with the advance of mental science." This advance of mental science, whatever it may amount to, has at all events been the means of initiating the process of education which has made itself manifest in the minds of our judges in later years, and which has so largely tended to turn the fifty-year-old rigid dictum of "knowledge of right and wrong" into a merely traditional usage, supported in consonance with a practice which, as Sir James Stephen says in his "History of the Criminal Law," he has himself followed on several occasions, and which, he adds, no judge can be expected to do otherwise than follow until some more binding authority is provided. As a proof of this change of front, leaving out the idiosyncrasies and methods of a limited few of the judges, we cannot do better than quote Sir James Stephen's words: "I cannot help feeling, however—and I know that some of the most distinguished judges on the Bench

have been of the same opinion—that the authority of the answers (given by the judges in 1843) is questionable, and it appears to me that when carefully considered they leave untouched the most difficult questions connected with the subject and lay down propositions liable to be misunderstood, though they might, and I think ought to, be construed in a way which would dispose satisfactorily of all cases whatever." This statement was made in 1883, and since that date other judges have in some cases more or less openly expressed their difficulty as to the applicability of the ruling of 1843, or have modified its technical phraseology, while in other cases they have, in their summing-up to the jury, tacitly ignored the ruling. This being so, we are fully justified in holding that the legal test of responsibility in criminal cases where the plea of insanity is raised is not only insufficient, but is also misleading and capable of doing grave injustice if strictly adhered to. What is the remedy which Dr. Weatherly proposes for this state of things? He suggests the following as the questions which should be placed before the jury, and which the medical experts should be examined upon: 1. Was the accused at the time of the commission of the act with which he is charged, and before that time, laboring under such mental disease as to render him certifiably insane? 2. If insane, how far was crime the outcome of his insanity? If, as Dr. Weatherly says, the legal dictum is to be condemned for its want of latitude, we fear that the condemnation applicable to Dr. Weatherly's proposed questions is that they permit too much latitude. The risk in this case will come to be that in the search for insanity the question of mere criminality will be apt to be lost sight of. As the writer of the leading article in the *Times* of August 4th says—and not without some truth—the proposed change in the law "would throw upon the jury a task infinitely more difficult than it has to discharge at present." He goes on to ask, How is a jury to determine whether a man is "certifiably insane?" How is any man to attach a definite meaning to "certifiably insane?" "The phrase can only mean that a couple of doctors can be found to certify that in their opinion the man is insane." Under ordinary circumstances the meaning or the application of the phrase is simple enough, but its use in relationship to the complex issues that have to be determined in courts of law in criminal cases could scarcely fail to lead to confusion by its vagueness, for it is the duty of medical men to help the law not only to avoid hanging insane persons, but also to prevent sane and responsible criminals from evading justice on a false plea. In seeking for a solution of this great difficulty we, as medical men, must be prepared not to overlook any standpoint from which the mental elements of responsibility ought to be considered. The question is not a purely medical question any more than it is a purely legal one. Reverting once more to Sir James Stephen, we are glad to be able to quote from him in this relation the following important expression of opinion: "I believe that by the existing law of England those elements (so far as madness is concerned) are knowledge that an act is wrong and power to abstain from doing it, and I think it is the province of judges to declare and explain this to the jury." The admission of this element of "power to abstain" is, to our thinking, all-important and should never be lost sight of when the question comes up. In connection with the points raised in Dr. Weatherly's paper, which dealt very cogently and straightforwardly with the subject of the existing state of the law, influential subcommittees of the British Medical Association and the Medico-Psychological Association have been appointed to investigate the whole position of the case and to report. The subject will, therefore, be again brought to public notice in due course.

Salicylic Acid in Ringworm.

Salicylic acid is highly recommended as an application to ringworm. It may be used as an ointment, but is much better as a saturated solution in collodion. One application is often all that is necessary to effect a cure, but more may be necessary. The pain caused is not usually severe.—*Mass. Medical Journal.*

Painful Dentition.

℞

Muriate of cocaine	gr. iss.
Tincture of conium	āā ʒij.
Syrup	

M. Sig.: Rub on the gums several times daily.—*New York Polyclinic.*

THE RELATION OF SEWER-GAS AIR TO TYPHOID FEVER.

Much light has recently been cast on the part played by sewer gas in typhoid fever infection. It has been shown that sewer air is as free from disease germs as ordinary air, but while it is probably not the carrier of typhoid germs, it is nevertheless an important factor in typhoid infection, by reason of its devitalizing effect on the human organism. Suffering under the debilitating influences of the poisonous gases sewer air contains, the natural powers of resistance possessed by man against parasitic organisms are lowered to such an extent that he falls an easy victim to their attacks and the disease is established.

The effect of inhalation of sewer gas has recently been investigated by Dr. Alessi through experiments on animals—rats, guinea-pigs and rabbits. In one of his experiments he exposed forty-nine rats to sewer gas, by means of boxes with perforated bottoms placed over drains. An equal number was likewise confined, but not subjected to the poisonous gas. After about two weeks both sets were inoculated with weak culture of the typhoid bacillus. As a result of this thirty-seven of those subjected to the noxious gases died, while but three of those not so treated succumbed. Out of seventy-two guinea-pigs subjected to poisonous gases, fifty-seven died after inoculation with the typhoid bacillus; in an equal number not subjected to the depressing influence of impure air, but inoculated with the same culture, none died. With rabbits the results were even more striking, for every one that had inhaled the gas and was inoculated died, and all that were kept in ordinary atmosphere were proof against the inoculations. The highest mortality in the animals occurred when they were inoculated during the first two weeks; those experimented with during the third week showed a mortality almost one-third less than those earlier treated, which would go to show that a certain degree of tolerance is established for the noxious substances when habitually inhaled.

These experiments are certainly very interesting, and the results obtained appear to clear up a subject not yet well understood. Before the conclusions, however, can be adopted as fixed facts, confirmation by other experimenters must necessarily be offered.—*Editorial Pittsburg Med. Rev.*

CHEMICAL, PHYSICAL, AND BACTERIOLOGICAL STUDIES UPON AIR OVER DECOMPOSING SUBSTANCES, WITH SPECIAL REFERENCE TO THEIR APPLICATION TO THE AIR OF SEWERS.

Dr. Abbott, at the Congress of American Physicians and Surgeons, said that under ordinary circumstances the difference between the chemical composition of the air from sewers and that of the atmosphere outside was very slight, and that, contrary to general opinion, there were comparatively few bacteria. It was also very commonly, but erroneously, supposed that sewer-gas was under very decided pressure. Professor Chandler had collected abundant evidence to the contrary. There was, moreover, not a single conclusive demonstration that the air of sewers stood in an etiological relation to many diseases for which it was popularly supposed to be accountable. The fact that the air in sewers was not under pressure, as a result of decomposition of the sewage, together with the fact that sewers were far from being air-tight, showed that the air of sewers was not likely to be driven out of the sewers under any great pressure. But little was known as yet regarding the nature of the bacteria found in the air of sewers. Experiments had been made at the laboratory, under his direction, with a view to determining the effect of the breaking of gas-bubbles on the conveyance of micro-organisms through the air. After endeavoring to simulate the natural conditions, it was found that such bubbling had but little influence of this kind. Bubbling was not a frequent condition in sewers, and, even should it occur, it was hardly conceivable that this would result in the transfer of micro-organisms from the sewer through the various branches and pipes leading to the houses. Then, again, if many pathogenic bacteria were present in the air from the sewers, those who worked in the sewers would show it in the effect on their health.—*Universal Medical Journal.*

THE LIBRARY TABLE.

BOOK REVIEWS.

Text-Book of Abdominal Surgery. A Clinical Manual for Practitioners and Students. By Skene Keith, F.R.C.S.Ed., assisted by George E. Keith. M.B., C.M. With illustrations. Philadelphia: J. B. Lippincott Co. 1894. Pages 508.

Based as this volume is to a large extent upon the immense experience of the celebrated Dr. Thomas Keith, whose early results—about 15 per cent. mortality after ovariotomy—were considered, at the time, so remarkable that they were described as "doubtful," and whose later results have been called "phenomenal," the authors have been able to present a masterly work upon the department of surgery that has assumed the foremost place within the last fifteen years. They have wisely grouped the subject under two main headings, namely, the surgery of the abdomen, and the surgery of the abdomen peculiar to women. In the former, after disposing of the points of general interest, such as tapping, exploratory incision, the examination of the withdrawn fluids, phantom tumors, the preparation for an abdominal operation, the technique of the operation, and the after-treatment, special chapters are devoted to a separate study of the peritoneum, the stomach, the intestines, the appendix, the liver, the kidney, and the spleen. The gynecologic section, while largely concerned with the ovaries and their pathologic conditions, includes also a consideration of the subject of uterine fibroids and the various modes of treatment that have been adopted, and a short discussion of the obstetric complications requiring surgical intervention.

The book is replete with valuable suggestions, and merits a careful reading. There are many points, however, which it shares in common with other English works, in which it differs radically from the teachings of the American writers. Notably is this the case in regard to the technique and after-treatment of celiotomy. The announcement that "the patient sits up in bed on or about the twelfth day, and gets up for the first time at the end of a fortnight," is widely at variance with the practice of the American abdominal surgeons, and, observed from our standpoint, there is given the subject an almost ludicrous aspect, when the authors proceed to apologize for this late (?) getting up, which, say they, is to "prevent, as much as possible, the risk of phlegmasia dolens." They seem to be happily oblivious to the imminent danger of ventral hernia, to which such a practice cannot fail to expose their patients. It would be interesting to inquire into the subsequent histories of patients subjected to this peculiar management of operative convalescence. Again, the minds of the skilled surgeons on this side of the water rise up in revolt when the advice is given to open the bowels of a patient convalescent from an acute peritonitis with doses of that abominable and nauseating mixture, the infusion of senna-pods; it seems like a glimpse into the methods of our medical forefathers of a less enlightened age that has now forever gone. Cauterization of the pedicle after ovariotomy is still favored, it being claimed that the only advantage the ligature possesses over the cautery is in the question of time. In this country, among progressive surgeons, the cautery, as far as abdominal operations are concerned, is relegated, along with the obsolescent carbolic spray, to the realm of surgical curiosities. Laparo-electrotomy (*sic*) is recommended among the surgical measures to be employed for the relief of obstetrical complications, notwithstanding the fact that this operation, with a mortality of fifty per cent. or more, is now looked upon as obsolete by the obstetricians of the world. Again, when we read that there is no especial tenderness attached to the tumor of an extra uterine gestation, we are led to the conclusion that the writers have fortunately escaped encountering many of these exceedingly painful and distressing cases.

Notwithstanding such peculiarities as these just enumerated, and which are largely sectional in their nature, the book is one of undoubted merit and will claim for itself more than the ordinary amount of attention from abdominal surgeons. D.

A System of Legal Medicine. By Allan McLane Hamilton, M.D., and others. E. B. Treat, 5 Cooper Union, New York. 1894.

In this book there is no evidence of an over-weening desire to get into the "book world," or of that effort which is technically called "book-making." All its chapters are written by men of scholarly attainments—men eminent in the chosen departments of their profession. The number of contributors gives to the style of the work an engaging interest. It is all it claims, encyclopedic, and more. Its special articles show that their authors thought into their subjects and not around them. The new material is made up of the new facts which modern research and studiously directed scientific experiment have evolved. The strength of the book lies in its carefully collated facts—living facts, vital to the present, not obsolete ones. The reader will be impressed by the clearness and conciseness of all the articles. They bear every evidence of great care and research, of honest, faithful and skillful work. In exposition of principles the work is logical, and is exact in its citations and deductions. Space will only

permit reference to a few of the important subjects treated:

"Medico-Legal Inspection and Post-Mortem Examination."
"Death in Its Medico-Legal Aspects."
"Blood and Other Stains."
"Hairs and Fibers."
"Identity of the Living."
"Homicide and Wounds."
"Inorganic Poisons."
"Alkaloidal and Other Organic Poisons."
"Toxicology of Ptomaines and Other Putrefactive Products."
"Medical Jurisprudence of Life Insurance."
"Legal Relations of Physicians and Surgeons," etc.

The article on the "Legal Relations of Physicians and Surgeons" would of itself make the book valuable to the medical profession. It condenses the law, as about settled in all the States, as it applies to physicians and surgeons in their relations to their patients and to one another. The author treats the subject under the important subdivisions of—

"Legislative Restrictions on Medical Practice."
"License and Examining Boards."
"Unprofessional Conduct."
"Legal Disabilities of Irregular Practitioners."
"The Contract for Fees."
"Who Is Liable for the Fee?"
"Professional Confidences."
"Sanctity of the Person."
"Criminal Offences," and other important departments of the general subject.

The book should receive a cordial reception from the profession. It contains very much the medical man needs to know. It will fill an important place in the professional library of the physician that is vacant without it. It should be kept in mind that the medical practitioner may be called upon at any moment to give evidence in a court of justice in a criminal case, and it is therefore important that he should know something of medical jurisprudence. R. P.

Chemistry: General, Medical and Pharmaceutical. Fourteenth edition. By John Attfield, F.R.S. Philadelphia: Lea Brothers & Co. 1894.

The writer's ideal of a work on chemistry for the use of students is one in which not only the *science* of chemistry is taught, but in which chemistry of every substance interesting the followers of medicine and pharmacy, is mentioned, according to its importance, at more or less length.

In the first part of the work chemical philosophy is considered; next comes the elements and the compound radicals, with their synthetical and analytical relations; then follows the chemistry of organic substances. The last chapters are the most interesting to the physician, for they treat of chemical toxicology, the chemistry of the urine, and likewise the microscopic appearance of morbid urine and the examination of calculi. O.

A Manual of Instruction in the Principles of Prompt Aid to the Injured. By Alvah H. Doty, M.D. Second edition. New York: D. Appleton & Co.

A manual such as this, is as valuable to the laity as to the trained nurse or the hospital steward. It contains an important chapter on hemorrhage, which is made valuable by cuts illustrating the lines of the important arteries and the methods of compressing the great vessels. The chapter on poisons is of great importance, but there are too many remedies for the various poisons. It is far better for those who may have to act in an emergency, to have a small stock of remedies which they can know well, than a whole store of indefinite ideas which only come to the mind to create confusion when an exigency arises. The author makes a mistake when he says that the symptoms of poisoning by mushrooms come on an hour after their ingestion; in certain forms poisonous symptoms do not make their appearance until ten or twelve hours afterward. Considered as a whole the manual is very well written.

J. O.

Treatment of Typhoid Fever. By D. D. Stewart, M.D. The Physician's Leisure Library. Geo. S. Davis, publisher, Detroit, Michigan.

The subject is well divided and considered under the head of prophylaxis, special and general; the specific and complications. The author departs from the common acceptation when he declares that "the Eberth germ . . . is not a specific micro-organism, but a modified or involution form of bacilli, all of which differ in form, size, and methods of growth." Otherwise the work is in perfect harmony with the most recent teaching.

Where to Send Patients Abroad for Water Cures and Climatic Treatment. By Dr. Thomas Linn. The Physician's Leisure Library. Geo. S. Davis, publisher, Detroit, Michigan.

This is a reprint of a small English book issued several months ago. Every physician who sends a patient abroad would do well to advise him to obtain a copy. The last chapter is especially valuable, for it contains an alphabetical list of maladies and the best places in Europe suiting the disease for which the patient is sent abroad.

Essentials of the Diseases of the Ear. By E. B. Gleason, S.B., M.D. Philadelphia: W. B. Saunders, 925 Walnut Street. 1894.

This book has been designed by the author for the use of advanced students entering upon work in an ear dispensary, and for physicians who may care to acquire more than the meager outline of otology as ordinarily

furnished by the medical schools. The essentials of otology are stated as briefly and concisely as accuracy will allow.

The treatment employed is such as the long experience of an aurist has proven to be most successful.

List price $1.00 ; 89 illustrations in the text.

Essentials of Physics. By Fred. J. Brockway, M.D. Second edition revised. Philadelphia: W. B. Saunders, 925 Walnut Street. 1894.

This is a book written for the use of the medical student in the early part of his course, and for the benefit of the hurried physician who may wish to bring to mind once more physical facts the exact principles of which may have escaped his memory.

Outlines of Obstetrics. By Charles Jewett, A.M., M.D., edited by Harold F. Jewett, M.D. Philadelphia: W. B. Saunders, 925 Walnut Street. 1894.

The syllabus is designed for the use of the medical student in his course on obstetrics, and as a convenient hand book for reference to the practitioner. The subject of obstetrics is not treated exhaustively in this work, but it is accurately and concisely described.

Materia Medica Pharmacy, Pharmacology and Therapeutics. By W. Hale White, M.D., F.R.C.P., edited by Reynold W. Wilcox, M.A., M.D., LL.D. Second American edition. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut Street. 1894.

This is a work designed for the practitioner as well as the student.

It contains a separate list of all the recent non-official remedies, with their action and use, a fact which makes the book very valuable. Throughout the text the most important facts of each drug are brought out in heavy type or italics, so that the reader can pick them out without any difficulty. It is a well-arranged and accurate text-book, especially on therapeutics.

CURRENT LITERATURE REVIEWED.

IN CHARGE OF ELLISON J. MORRIS, M.D., AND SAMUEL M. WILSON, M.D.

IN THE PHYSICIAN AND SURGEON

for September appears a very interesting article on

Tyrotoxicon Poisoning,

by Dr. Luther S. Harvey.

In it he mentions the fact, not generally known, that cheese poisoning has been known for over one hundred years, and that the term tyrotoxicon was in use fifty years ago, at least.

Schmierkase and barschkase are said to be particularly apt to contain this poison on account of the manner in which they are prepared.

A very vivid record of two cases of poisoning has been found: "Two men made a breakfast of this same sort of cheese with bread and butter. One went immediately into the field and after a few hours noticed a heaviness of the head, anxiety and a painful feeling in the abdomen and pressure upon the chest. These symptoms became worse and were followed by dizziness and nausea. He was obliged to return to his home, where he was taken with severe vomiting and copious diarrhœa. After that the other symptoms disappeared and left only extreme weariness. The other man, who had breakfasted two hours later, came to dinner with tenderness in the abdomen and complained of dull pain and pressure in the head. With great difficulty he ate two plates of chicken soup, during which he turned alternately red and pale. Finally he rose from the table ashy pale, staggering into the front part of the house, where he fell upon the floor like a lifeless machine. He stretched out his hands and feet, his eyes being open, and from a large wound on the jaw caused by the fall came not a drop of blood. He was immediately raised from the floor; copious vomiting set in and the previously dry wound began to bleed. In this case diarrhœa did not occur and after the vomiting he experienced no unpleasant sequelæ."

Experimenting with poisonous cheese Vaughan found that a watery extract was poisonous, also an alcoholic extract.

In 1887 it was found that after treating an alcoholic solution of tyrotoxicon with platinic chloride, a violent explosion took place on evaporating it. Knowing that diazobenzol would under similar circumstances explode in the same manner, experiments were made with that substance, and it was found to be quite poisonous.

Diazobenzol is a transition putrefactive product. Hydrogen sulphide, heat, and exposure to the air destroy it, and this accounts for the difficulty in isolating it.

Vaughan claims that if the butyric acid ferment is prepared in the usual way, milk inoculated with it and allowed to stand for a few hours at the body temperature the poison will form. He is not prepared to say, though, that the cause of tyrotoxicon is the butyric ferment, but that it is usually present with it.

Dr. Harvey in testing some suspected cheese ate five grammes, and observing no effect, took two days later ten grammes, and suffered from vomiting and purging, apparently choleraic in severity, and recovered only after the free use of hypodermics of nitroglycerine, strychnia, and brandy together with paregoric, hot blankets, etc.

He concludes from this experience that scattered colonies of the microbes existed and the poison was intense in proximity to these.

Dr. J. R. Dodge reports a case of

Reflex Paralysis of the Organs of Phonation; Recovery.

The patient was a single girl of eighteen, who suddenly lost her power of speech. When seen there were no objective symptoms, and in spite of general, local and climatic treatment the condition remained unchanged. The patient married, and some time afterward—two years from the commencement of the trouble—was so frightened by some farm cattle that she screamed for help. Complete control and power over the voice remained from that time.

In an editorial on "Emotional Jaundice" several cases are cited where fright caused an intense and instantaneous jaundice. This he ascribes to a change in the relation between the blood pressure and the pressure in the biliary vessels. Normally, the biliary pressure is the greater. It is also known that the biliary vessels may occasionally contract.

Delayed jaundice following emotional excitement is probably due to an intervening digestive derangement.

Dr. David Inglis writes of the

Sequelæ of Diphtheria.

In diphtheria, he says, a poison similar to those formed in scarlet fever, rheumatism, measles, typhoid fever, small-pox, etc., is formed, and the after-effects of it lead to general destruction of the protoplasm with which it comes in contact and to the well-known sequelæ of diphtheria.

The kidneys are probably affected in almost every case, but to a less degree than in scarlet fever. The nervous symptoms are due to a multiple neuritis, but this differs from that due to alcohol, lead, etc., in being parenchymatous and not interstitial. It is, therefore, not followed by sclerosis, and when the regeneration takes place it is usually complete and is not apt to be followed by muscular atrophy.

When, however, the cells in the anterior spinal cornua are inflamed, a degeneration of the corresponding nerve-roots and an atrophy of the muscles supplied by these may result.

The oculo-motor and pharyngeal muscles are usually the first affected, and when visual defects follow they may usually be proven due simply to paralysis of the muscles of accommodation.

In this disease it is peculiar that symptoms may appear and progress in one part of the body, when cure is taking place elsewhere.

The danger in this poisoning lies in the probable paralysis of the cardiac and respiratory nerves. This may take place with scarcely any warning, hence the necessity of carefully observing the cardiac and respiratory rhythm and ordering absolute rest if there be the slightest irregularity.

The author records a case where the absence of symptoms in an indisposed child led to a complete examination, resulting in the discovery that palate, tonsils and pharynx were covered with the diphtheritic membrane.

The child seemed very slightly unwell, but died in eight hours.

Cod-liver oil and arsenic are preferred to galvanism; in fact, unless carefully used, galvanism is apt to retard rather than to help.

The diphtheritic poison may cause hemiplegia by degeneration of blood-vessel walls.

The very practical point is dwelt on that children should not be put to work nor study after a recent attack of diphtheria.

Other articles in this number are: "One Hundred Consecutive Obstetrical Cases," by Dr. W. S. Haughey; "The Importance of the Bacterium Coli, etc.," by Dr. Jules Simon; "The Pathology and Treatment of Diphtheria," by Dr. Collins H Johnston.

THE ANNALS OF GYNÆCOLOGY AND PÆDIATRY

for September. Dr. Ernest W. Cushing, Professor of Gynæcology at Tuft's College Medical School, contributes an interesting paper on

Abdominal Drainage.

The author compares the difference of practice among the English and German operators in respect to drainage after abdominal operations, and declares that the omission of drainage by the latter is based upon the use of a large incision and complete tying of all adhesions with catgut, and entire removal of all foreign matter from the abdomen without irrigation, the assistants being skilled, the preparations perfect, the operating-room ideal, the operator being a clinical professor of long experience and particular skill, and the patient being, on the average, robust and in good condition.

The reasons for employing drainage are stated to be the danger of a profuse sanguineous discharge, or even a serious hemorrhage, both of which the drainage-tube will carry off and in the case of severe hemorrhage will

give warning of the occurrence of the accident. The objections to the use of the tube are:

The use of a drainage-tube is a decided inconvenience.

If carelessly handled, it may become a source of secondary infection, with formation of exudates.

If incorrectly placed or left too long in position, it may fail of its purpose.

It may even, if wrongly used, be the origin of a fecal fistula, by pressure, or of a suppurating abdominal wound; or a sinus may remain in the track of the tube.

Its use greatly increases the necessity of skill and attention in the treatment, and adds to the discomfort of the patient for a day or two after the operation. By pressure on the intestine, unless removed in time, it may cause an obstruction even with fatal result.

The liability to subsequent hernia is said to be somewhat increased.

While the author fully recognizes the force of these objections, they are more theoretical than real in his opinion, and a fatal result from the use of the drainage-tube in competent hands is of extremely rare occurrence, and no such accident has occurred to him.

He gives the following indications for drainage:

1. The presence of freshly separated adhesions, or of voluminous pedicles, or of rents or incisions in the pelvic peritoneum which have required many stitches—in fact, of any condition which may lead to hemorrhage or to oozing of bloody fluid.

2. The fact that pus, or urine, or fecal matter, or the contents of cysts or much blood has escaped into the abdominal cavity, such a circumstance should always be followed by free irrigation with pure hot water and the use of drainage.

3. The perforation or incision of the intestine or bladder during operation, or a sloughy condition which makes it probable that perforation will occur. Even when an opening into these viscera found or made during the operation is carefully sutured, experience shows that patients often recover with a fecal or, as the case may be, a urinary fistula, who would presumably have died without drainage. Such fistulæ heal eventually under proper treatment.

4. The presence of masses of exudates, or of stiff walls of cavities from which diseased organs have been enucleated, which do not permit the intestines to snugly fill the pelvis and which would offer a cavity where fluid could accumulate.

5. Almost any condition, such as shock or weakness, which has required very rapid termination of a very difficult operation, in which case the abdomen will usually be full of hot water.

There are no special contraindications to drainage; the general considerations mentioned above prevent its use where it is not needed; but practically those operators who use the drainage-tube learn to trust in it, and where there is any doubt they drain.

A straight tube should be used because it is easier to clean, and sometimes it is important to turn it on its axis without removing it. It is also far easier to introduce and remove a strand of absorbent cotton or gauze through a straight tube than through a curved one, and often it is very desirable to turn the cotton-holding probe on its axis in order to wipe out the tube or to remove small clots of blood from the space of Douglas. The tube being straight should be well annealed, open at the lower extremity, and provided with a flange at or near the top. The lower two inches should be perforated with fine apertures, so small that the omentum or intestine cannot become entangled therein, and yet large enough to permit of the free passage of blood or secretions. The tube should be perfectly smooth inside and out. Cases that require drainage will usually require irrigation, which is best accomplished by pouring pure (distilled preferably) water into the abdominal cavity by means of a funnel and rubber tube with an end piece of glass or hard rubber having openings sufficiently large to permit of a free flow of water. Irrigation is to be continued till the fluid returned is clear or nearly so, making sure that opportunity is given for all clots to escape; then, without attempting to remove the water from the abdomen, the tube is to be carried to the bottom of the space of Douglas, and sometimes a second tube or a packing of gauze is required to drain some particular cavity with stiff walls. The abdominal wound is then to be closed around the tube, allowing the latter to project through that part of the wound where it will lie most easily. Excess of fluid may then be removed through a small rubber tube inserted through the glass drain, while a piece of thin rubber sheeting, or "dam," is stretched over the upper end of the tube, which projects through a small hole in the middle of the sheet and thus protects the dressings. The tube is to be kept empty by sucking the fluid out by means of a syringe with a long nozzle or one provided with a piece of tubing long enough to reach to the bottom of the tube. The author recommends that the tube be sucked dry every ten minutes after the operation, the interval being gradually increased. He also finds that it is not best to remove the glass drain under thirty-six hours after the operation, since the secretion sometimes diminishes after twelve hours, and then becomes quite free again during the period of reaction. When the glass drain is to be removed a rubber tube is introduced into it and the glass tube withdrawn, leaving the rubber tube in its place. A strip of iodoform gauze may be used in the same way. Whichever is used is shortened half an inch every morning, noon and night until it is all removed.

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permit reference to a few of the important subjects treated:

"Medico-Legal Inspection and Post-Mortem Examination."
"Death in Its Medico-Legal Aspects."
"Blood and Other Stains."
"Hairs and Fibers."
"Identity of the Living."
"Homicide and Wounds."
"Inorganic Poisons."
"Alkaloidal and Other Organic Poisons."
"Toxicology of Ptomaines and Other Putrefactive Products."
"Medical Jurisprudence of Life Insurance."
"Legal Relations of Physicians and Surgeons," etc.

The article on the "Legal Relations of Physicians and Surgeons" would of itself make the book valuable to the medical profession. It condenses the law, as about settled in all the States, as it applies to physicians and surgeons in their relations to their patients and to one another. The author treats the subject under the important subdivisions of—

"Legislative Restrictions on Medical Practice."
"License and Examining Boards."
"Unprofessional Conduct."
"Legal Disabilities of Irregular Practitioners."
"The Contract for Fees."
"Who Is Liable for the Fee?"
"Professional Confidences."
"Sanctity of the Person."
"Criminal Offences," and other important departments of the general subject.

The book should receive a cordial reception from the profession. It contains very much the medical man needs to know. It will fill an important place in the professional library of the physician that is vacant without it. It should be kept in mind that the medical practitioner may be called upon at any moment to give evidence in a court of justice in a criminal case, and it is therefore important that he should know something of medical jurisprudence. R. P.

Chemistry: General, Medical and Pharmaceutical. Fourteenth edition. By John Attfield, F.R.S. Philadelphia: Lea Brothers & Co. 1894.

The writer's ideal of a work on chemistry for the use of students is one in which not only the *science* of chemistry is taught, but in which chemistry of every substance interesting the followers of medicine and pharmacy, is mentioned, according to its importance, at more or less length.

In the first part of the work chemical philosophy is considered; next comes the elements and the compound radicals, with their synthetical and analytical relations; then follows the chemistry of organic substances. The last chapters are the most interesting to the physician, for they treat of chemical toxicology, the chemistry of the urine, and likewise the microscopic appearance of morbid urine and the examination of calculi. O.

A Manual of Instruction in the Principles of Prompt Aid to the Injured. By Alvah H. Doty, M.D. Second edition. New York: D. Appleton & Co.

A manual such as this, is as valuable to the laity as to the trained nurse or the hospital steward. It contains an important chapter on hemorrhage, which is made valuable by cuts illustrating the lines of the important arteries and the methods of compressing the great vessels. The chapter on poisons is of great importance, but there are too many remedies for the various poisons. It is far better for those who may have to act in an emergency, to have a small stock of remedies which they can know well, than a whole store of indefinite ideas which only come to the mind to create confusion when an exigency arises. The author makes a mistake when he says that the symptoms of poisoning by mushrooms come on an hour after their ingestion; in certain forms poisonous symptoms do not make their appearance until ten or twelve hours afterward. Considered as a whole the manual is very well written.

J. O.

Treatment of Typhoid Fever. By D. D. Stewart, M.D. The Physician's Leisure Library. Geo. S. Davis, publisher, Detroit, Michigan.

The subject is well divided and considered under the head of prophylaxis, special and general; the specific and complications. The author departs from the common acceptation when he declares that "the Eberth germ . . . is not a specific micro-organism, but a modified or involution form of bacilli, all of which differ in form, size, and methods of growth." Otherwise the work is in perfect harmony with the most recent teaching.

Where to Send Patients Abroad for Water Cures and Climatic Treatment. By Dr. Thomas Linn. The Physician's Leisure Library. Geo. S. Davis, publisher, Detroit, Michigan.

This is a reprint of a small English book issued several months ago. Every physician who sends a patient abroad would do well to advise him to obtain a copy. The last chapter is especially valuable, for it contains an alphabetical list of maladies and the best places in Europe suiting the disease for which the patient is sent abroad.

Essentials of the Diseases of the Ear. By E. B. Gleason, S.B., M.D. Philadelphia: W. B. Saunders, 925 Walnut Street. 1894.

This book has been designed by the author for the use of advanced students entering upon work in an ear dispensary, and for physicians who may care to acquire more than the meager outline of otology as ordinarily

furnished by the medical schools. The essentials of otology are stated as briefly and concisely as accuracy will allow.

The treatment employed is such as the long experience of an aurist has proven to be most successful.

List price $1.00; 89 illustrations in the text.

Essentials of Physics. By Fred. J. Brockway, M.D. Second edition revised. Philadelphia: W. B. Saunders, 925 Walnut Street. 1894.

This is a book written for the use of the medical student in the early part of his course, and for the benefit of the hurried physician who may wish to bring to mind once more physical facts the exact principles of which may have escaped his memory.

Outlines of Obstetrics. By Charles Jewett, A.M., M.D., edited by Harold F. Jewett, M.D. Philadelphia: W. B. Saunders, 925 Walnut Street. 1894.

The syllabus is designed for the use of the medical student in his course on obstetrics, and as a convenient hand book for reference to the practitioner. The subject of obstetrics is not treated exhaustively in this work, but it is accurately and concisely described.

Materia Medica Pharmacy, Pharmacology and Therapeutics. By W. Hale White, M.D., F.R.C.P., edited by Reynold W. Wilcox, M.A., M.D., LL.D. Second American edition. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut Street. 1894.

This is a work designed for the practitioner as well as the student.

It contains a separate list of all the recent non-official remedies, with their action and use, a fact which makes the book very valuable. Throughout the text the most important facts of each drug are brought out in heavy type or italics, so that the reader can pick them out without any difficulty. It is a well-arranged and accurate text-book, especially on therapeutics.

CURRENT LITERATURE REVIEWED.

IN CHARGE OF ELLISON J. MORRIS, M.D., AND SAMUEL M. WILSON, M.D.

IN THE PHYSICIAN AND SURGEON

for September appears a very interesting article on

Tyrotoxicon Poisoning,

by Dr. Luther S. Harvey.

In it he mentions the fact, not generally known, that cheese poisoning has been known for over one hundred years, and that the term tyrotoxicon was in use fifty years ago, at least.

Schmierkase and barschkase are said to be particularly apt to contain this poison on account of the manner in which they are prepared.

A very vivid record of two cases of poisoning has been found: "Two men made a breakfast of this same sort of cheese with bread and butter. One went immediately into the field and after a few hours noticed a heaviness of the head, anxiety and a painful feeling in the abdomen and pressure upon the chest. These symptoms became worse and were followed by dizziness and nausea. He was obliged to return to his home, where he was taken with severe vomiting and copious diarrhœa. After that the other symptoms disappeared and left only extreme weariness. The other man, who had breakfasted two hours later, came to dinner with tenderness in the abdomen and complained of dull pain and pressure in the head. With great difficulty he ate two plates of chicken soup, during which he turned alternately red and pale. Finally he rose from the table ashy pale, staggering into the front part of the house, where he fell upon the floor like a lifeless machine. He stretched out his hands and feet, his eyes being open, and from a large wound on the jaw caused by the fall came not a drop of blood. He was immediately raised from the floor; copious vomiting set in and the previously dry wound began to bleed. In this case diarrhœa did not occur and after the vomiting he experienced no unpleasant sequelæ."

Experimenting with poisonous cheese Vaughan found that a watery extract was poisonous, also an alcoholic extract.

In 1887 it was found that after treating an alcoholic solution of tyrotoxicon with platinic chloride, a violent explosion took place on evaporating it. Knowing that diazobenzol would under similar circumstances explode in the same manner, experiments were made with that substance, and it was found to be quite poisonous.

Diazobenzol is a transition putrefactive product. Hydrogen sulphide, heat, and exposure to the air destroy it, and this accounts for the difficulty in isolating it.

Vaughan claims that if the butyric acid ferment is prepared in the usual way, milk inoculated with it and allowed to stand for a few hours at the body temperature the poison will form. He is not prepared to say, though, that the cause of tyrotoxicon is the butyric ferment, but that it is usually present with it.

Dr. Harvey in testing some suspected cheese ate five grammes, and observing no effect, took two days later ten grammes, and suffered from vomiting and purging, apparently choleraic in severity, and recovered only after the free use of hypodermics of nitroglycerine, strychnia, and brandy together with paregoric, hot blankets, etc.

He concludes from this experience that scattered colonies of the microbes existed and the poison was intense in proximity to these.

Dr. J. R. Dodge reports a case of

Reflex Paralysis of the Organs of Phonation; Recovery.

The patient was a single girl of eighteen, who suddenly lost her power of speech. When seen there were no objective symptoms, and in spite of general, local and climatic treatment the condition remained unchanged. The patient married, and some time afterward—two years from the commencement of the trouble—was so frightened by some farm cattle that she screamed for help. Complete control and power over the voice remained from that time.

In an editorial on "Emotional Jaundice" several cases are cited where fright caused an intense and instantaneous jaundice. This he ascribes to a change in the relation between the blood pressure and the pressure in the biliary vessels. Normally, the biliary pressure is the greater. It is also known that the biliary vessels may occasionally contract.

Delayed jaundice following emotional excitement is probably due to an intervening digestive derangement.

Dr. David Inglis writes of the

Sequelæ of Diphtheria.

In diphtheria, he says, a poison similar to those formed in scarlet fever, rheumatism, measles, typhoid fever, small-pox, etc., is formed, and the after-effects of it lead to general destruction of the protoplasm with which it comes in contact and to the well-known sequelæ of diphtheria.

The kidneys are probably affected in almost every case, but to a less degree than in scarlet fever. The nervous symptoms are due to a multiple neuritis, but this differs from that due to alcohol, lead, etc., in being parenchymatous and not interstitial. It is, therefore, not followed by sclerosis, and when the regeneration takes place it is usually complete and is not apt to be followed by muscular atrophy.

When, however, the cells in the anterior spinal cornua are inflamed, a degeneration of the corresponding nerve-roots and an atrophy of the muscles supplied by these may result.

The oculo-motor and pharyngeal muscles are usually the first affected, and when visual defects follow they may usually be proven due simply to paralysis of the muscles of accommodation.

In this disease it is peculiar that symptoms may appear and progress in one part of the body, when cure is taking place elsewhere.

The danger in this poisoning lies in the probable paralysis of the cardiac and respiratory nerves. This may take place with scarcely any warning, hence the necessity of carefully observing the cardiac and respiratory rhythm and ordering absolute rest if there be the slightest irregularity.

The author records a case where the absence of symptoms in an indisposed child led to a complete examination, resulting in the discovery that palate, tonsils and pharynx were covered with the diphtheritic membrane.

The child seemed very slightly unwell, but died in eight hours.

Cod-liver oil and arsenic are preferred to galvanism; in fact, unless carefully used, galvanism is apt to retard rather than to help.

The diphtheritic poison may cause hemiplegia by degeneration of blood-vessel walls.

The very practical point is dwelt on that children should not be put to work nor study after a recent attack of diphtheria.

Other articles in this number are: "One Hundred Consecutive Obstetrical Cases," by Dr. W. S. Haughey; "The Importance of the Bacterium Coli, etc.," by Dr. Jules Simon; "The Pathology and Treatment of Diphtheria," by Dr. Collins H Johnston.

THE ANNALS OF GYNÆCOLOGY AND PÆDIATRY

for September. Dr. Ernest W. Cushing, Professor of Gynæcology at Tuft's College Medical School, contributes an interesting paper on

Abdominal Drainage.

The author compares the difference of practice among the English and German operators in respect to drainage after abdominal operations, and declares that the omission of drainage by the latter is based upon the use of a large incision and complete tying of all adhesions with catgut, and entire removal of all foreign matter from the abdomen without irrigation, the assistants being skilled, the preparations perfect, the operating-room ideal, the operator being a clinical professor of long experience and particular skill, and the patient being, on the average, robust and in good condition.

The reasons for employing drainage are stated to be the danger of a profuse sanguineous discharge, or even a serious hemorrhage, both of which the drainage-tube will carry off and in the case of severe hemorrhage will

give warning of the occurrence of the accident. The objections to the use of the tube are:

The use of a drainage-tube is a decided inconvenience.

If carelessly handled, it may become a source of secondary infection, with formation of exudates.

If incorrectly placed or left too long in position, it may fail of its purpose.

It may even, if wrongly used, be the origin of a fecal fistula, by pressure, or of a suppurating abdominal wound; or a sinus may remain in the track of the tube.

Its use greatly increases the necessity of skill and attention in the treatment, and adds to the discomfort of the patient for a day or two after the operation. By pressure on the intestine, unless removed in time, it may cause an obstruction even with fatal result.

The liability to subsequent hernia is said to be somewhat increased.

While the author fully recognizes the force of these objections, they are more theoretical than real in his opinion, and a fatal result from the use of the drainage-tube in competent hands is of extremely rare occurrence, and no such accident has occurred to him.

He gives the following indications for drainage:

1. The presence of freshly separated adhesions, or of voluminous pedicles, or of rents or incisions in the pelvic peritoneum which have required many stitches—in fact, of any condition which may lead to hemorrhage or to oozing of bloody fluid.

2. The fact that pus, or urine, or fecal matter, or the contents of cysts or much blood has escaped into the abdominal cavity, such a circumstance should always be followed by free irrigation with pure hot water and the use of drainage.

3. The perforation or incision of the intestine or bladder during operation, or a sloughy condition which makes it probable that perforation will occur. Even when an opening into these viscera found or made during the operation is carefully sutured, experience shows that patients often recover with a fecal or, as the case may be, a urinary fistula, who would presumably have died without drainage. Such fistulæ heal eventually under proper treatment.

4. The presence of masses of exudates, or of stiff walls of cavities from which diseased organs have been enucleated, which do not permit the intestines to snugly fill the pelvis and which would offer a cavity where fluid could accumulate.

5. Almost any condition, such as shock or weakness, which has required very rapid termination of a very difficult operation, in which case the abdomen will usually be full of hot water.

There are no special contraindications to drainage; the general considerations mentioned above prevent its use where it is not needed; but practically those operators who use the drainage-tube learn to trust in it, and where there is any doubt they drain.

A straight tube should be used because it is easier to clean, and sometimes it is important to turn it on its axis without removing it. It is also far easier to introduce and remove a strand of absorbent cotton or gauze through a straight tube than through a curved one, and often it is very desirable to turn the cotton-holding probe on its axis in order to wipe out the tube or to remove small clots of blood from the space of Douglas. The tube being straight should be well annealed, open at the lower extremity, and provided with a flange at or near the top. The lower two inches should be perforated with fine apertures, so small that the omentum or intestine cannot become entangled therein, and yet large enough to permit of the free passage of blood or secretions. The tube should be perfectly smooth inside and out. Cases that require drainage will usually require irrigation, which is best accomplished by pouring pure (distilled preferably) water into the abdominal cavity by means of a funnel and rubber tube with an end piece of glass or hard rubber having openings sufficiently large to permit of a free flow of water. Irrigation is to be continued till the fluid returned is clear or nearly so, making sure that opportunity is given for all clots to escape; then, without attempting to remove the water from the abdomen, the tube is to be carried to the bottom of the space of Douglas, and sometimes a second tube or a packing of gauze is required to drain some particular cavity with stiff walls. The abdominal wound is then to be closed around the tube, allowing the latter to project through that part of the wound where it will lie most easily. Excess of fluid may then be removed through a small rubber tube inserted through the glass drain, while a piece of thin rubber sheeting, or "dam," is stretched over the upper end of the tube, which projects through a small hole in the middle of the sheet and thus protects the dressings. The tube is to be kept empty by sucking the fluid out by means of a syringe with a long nozzle or one provided with a piece of tubing long enough to reach to the bottom of the tube. The author recommends that the tube be sucked dry every ten minutes after the operation, the interval being gradually increased. He also finds that it is not best to remove the glass drain under thirty-six hours after the operation, since the secretion sometimes diminishes after twelve hours, and then becomes quite free again during the period of reaction. When the glass drain is to be removed a rubber tube is introduced into it and the glass tube withdrawn, leaving the rubber tube in its place. A strip of iodoform gauze may be used in the same way. Whichever is used is shortened half an inch every morning, noon and night until it is all removed.

The author also describes the method of using the gauze drain of Miculicz, which in certain cases becomes necessary in addition to the glass drain. Particularly is this the case where there is free oozing from some points deep in the pelvis, or where it is desirable to prevent the intestines from falling into a cavity wholly or in part lined with a suppurating membrane, or where a perforation of the bladder or intestine has been

found or made, so that a fistula may reasonably be expected.

Drainage by the vagina receives little mention, as the author prefers to use drainage through the abdominal wound, while he concedes that it may be a useful procedure in cases of vaginal hysterectomy and sometimes in total extirpation of the uterus.

The same author also contributes a paper on

The Operative Treatment of Uterine Fibroids,

in which he sums up the results of his own experience as follows:

1. That electricity is useless and dangerous and has no place in the armamentarium of the surgeon.

2. That no method will compare with that of the extraperitoneal treatment of the stump in favorable cases—that is, where the abdominal walls are not too thick and the tumor can be lifted out so that a constrictor can be applied around the whole pedicle, including the uterine appendages; that the advantages of this method lie in its rapidity, in the short time during which the abdomen is opened, in the entire protection of the intestines from exposure and from handling, and in the absence of shock; that with proper care there need be no sloughing of the stump and little or no suppuration of the wound. This, then, for him is the operation of selection for the present, especially in private practice and in all cases where the patient is not strong and is ill prepared to withstand the shock of the longer operation required by other methods of treatment of the stump.

3. For the intra-extraperitoneal treatment he should always in future leave as little of the cervix as possible—dilate it, burn it, and drain it. This method is applicable to cases in which it is difficult to apply the former one, owing to the thickness of the abdominal walls, or rigidity of the pelvic floor, or the presence of dense adhesions requiring drainage. He sees little advantage to be gained from leaving any cervix; to avoid the great danger of sloughing of the stump, it must be amputated well below the level of the internal os after separation of the bladder from the cervix and ligation of the uterine arteries. When all of this has been done there is no difficulty or loss of time in removing all the uterine tissues. Drainage should usually be employed both through the vagina by gauze and by a glass tube at the bottom of the pelvis, as there is pretty sure to be free oozing.

The fact remains, however, and must never be forgotten, that for either of these methods of operation, by extra-intraperitoneal treatment or by total abdominal extirpation, the operation is prolonged from one-half an hour to an hour; during this time the pelvis is exposed to the air and too much handling; considerable blood may be lost, which runs in among the intestines; there is an added shock from the large amount of ether consumed, and the whole burden of proof is, in the author's judgment, still on those who would use these operations in cases which are suitable for the extraperitoneal treatment.

Dr. T. M. Burns, Instructor in Obstetrics at the Gross Medical College, Denver, Colo., etc., discusses "La Grippe During the Puerperal State," reporting several cases and presenting the various points by which the affection may be distinguished from puerperal sepsis.

Charles Greene Cumston, B.M.S., M.D., discusses "Sudden Death of Women from Placenta Prævia, with Remarks on Treatment." The author advises that the obstetrician keep on hand a quantity of sterilized tampons for use in such emergency. These tampons are saturated with iodol-glycerin, made in accordance with a formula given, and which he states may remain in the vagina for several days without giving any odor when withdrawn. Before introduction these are to be covered thinly with 3 per cent. carbolized vaseline, forming, when introduced, a sort of cement, which cannot be penetrated with blood. If the woman is in labor the tampons are to be used till dilatation is complete. The uterus must not be emptied too quickly and extraction of the fetus must be accomplished slowly.

Dr. Cumston also reports a clinical lecture delivered at the Charity Hospital, Paris, by Prof. Tilleaux on "Tuberculosis of the Rectum."

J. G. Carpenter, M.D., of Stanford, Ky., contributes an interesting paper on "Abdominal Surgery in the Country—Lives that could have been Saved by Early Surgical Interference," detailing a number of cases illustrating the conditions with which the surgeon has to contend in operating without the accessories considered absolutely essential in city practice.

A Clinical Study of the Effects of Inhalations of Chloroform and Ether Upon the Kidney.

Wunderlich (*Centralblatt fur Chirurgie*) has examined the urine of 100 cases of ether and chloroform narcosis. The urine was carefully examined berore and after, both microscopically and chemically. The investigations give the following results:

1. Those cases in which albumin is already present, the amount of albumin is markedly increased—that is, when ether is the anesthetic used.

2. Albumin is frequently seen after inhalations of chloroform, and seldom when ether is used.

This albuminuria usually disappears in from twenty-four to forty-eight hours.

3. When chloroform is used, casts are frequently found in the urine, but seldom after ether.

The course of the albumin and casts is, in the author's estimation, an ischemia of the kidney, or an increase in the blood-pressure.

The author, in conclusion, says the so-called "ether nephritis" may be excluded from medical literature.—*University Med. Magazine.*

PERISCOPE.

IN CHARGE OF WM. E. PARKE, A.M., M.D.

MEDICINE.

The Diuretic Action of Diuretin.

Pawinski (*Zeitschrift fur klinische Medicin*) comes to the conclusion, from his observations, that diuretin does not act through its influence on the innervation of the heart, as does digitalis, but in an indirect manner. By an increase of the urine and diminution of the edema the work that the heart has to do is lessened, and hence its action made more of use to the economy.

The diuretic action of diuretin is often excessive, ten to twelve quarts being sometimes passed in twenty-four hours. The maximum action begins on the fourth or fifth day. The substance is indicated in heart disease, where digitalis fails to act or cannot be taken. He uses it in aortic regurgitations, where digitalis is sometimes badly borne, and in heart disease, where there is great irritability of the nervous system. Diuretin gives better results in heart disease where there is disease of the heart muscle than it does in valvular disease. In kidney disease it is of less value. It is most valuable, however, in high grades of intestinal nephritis, where there is high blood-pressure. Dose is about fifteen grains, ninety grains to be given daily. It is best given in solution.—*University Med. Magazine.*

Bismuth Subgallate or Digestive Ferments?

The present *furore* in favor of bismuth subgallate is likely to prove its worst enemy because its general use in all forms of indigestion will eventually create a reaction against it, causing it to fall into disuse. That the remedy is a useful one in certain forms of functional dyspepsia cannot be denied, but to be successful clinically the diet must be properly regulated, and with this proper precaution—although the writer has used the subgallate quite extensively during the past three months—the results have been but little, if any, more satisfactory than he has experienced with the same dose of bismuth subcarbonate.

Unfortunately, the profession has gotten into the habit of prescribing bismuth in the form of subnitrate instead of the subcarbonate, and the favorable results following the employment of the latter are not appreciable when the former is given. The reason for this is obvious, since the subcarbonate is an amorphous powder, while the subnitrate is a crystalline substance, and no matter what may be the amount of the dose it always enacts the *role* of an irritant. But even with the administration of subcarbonate, and the rule is equally applicable in the case of subgallate, one or the other of the digestive ferments should be added. In all cases the addition of either pepsin or pancreatin, or the simultaneous exhibition of malt extract, will materially enhance the bismuth effects, and we therefore submit this proposition to the profession in the firm belief that it will prevent much disappointment on the part of physicians and patients.

That bismuth preparations act as disinfectants in the alimentary canal is freely admitted, but that they stimulate or measurably improve the digestive function proper there is room for serious doubt, and it would be well, therefore, in estimating the therapeutics of the remedy to take into consideration the physical demands of the patient. With our superior pepsin preparations and the elegant pancreatic extracts now at our command, it seems the part of wisdom to consider the ultimate effects of indiscriminately prescribing the popular remedy of the day.

To give the present article a practical turn, the following formulæ are suggested as a marked improvement over the use of bismuth alone in the treatment of dyspepsia and indigestion:

℞ Ext. nucis vomicæ ..... gr. ¼
Pepsin pur. ..... gr. i
Bismuthi subcarbonas, vel bismuthi subgallas ..... gr. iv

M. Et fiat Tab. vel Chart. No. i.

Sig.—Take one tablet or powder before and after eating.

℞ Ext. nucis vomicæ ..... gr. ¼
Ext. pancreatini ..... gr. iss
Bismuthi subcarbonas, vel bismuthi subgallas ..... gr. iijss

M. Et fiat Tab. vel Chart. No. i.

Sig.—Take one tablet or powder before, and one two hours after meals.

The first of these formulæ will be found available when the fault lies with the stomach, the second when intestinal digestion is deficient. In the former case the diet should be regulated with a view to lessen the work demanded of the stomach; in the latter the starchy food-stuffs and fats must be diminished, the diet being principally of a nitrogenous character.—*The American Therapist.*

The Ancient Use of Sterilized Water.

Mr. Morris F. Davey (*Abergavenny*) writes: The following from Ragozin's *Media, Babylon and Persia* is interesting: "As soon as Susa became the principal capital of the Persian Empire, its river, the Choaspes, had the honor of supplying the kings with the only

drinking-water they would use. Kyros first instituted this custom, which was religiously kept up by his successors. 'Whenever the great king travels,' Herodotus reports, 'he is attended by a number of four-wheeled cars drawn by mules, in which the Choaspes water, ready boiled for use and stored in flagons of silver, is moved with him from place to place.'" The author says in a footnote, page 319, "It is amusing to find so early an instance of this hygienic precaution—the boiling of water—which we are wont to consider so very modern."—*Diet and Hygienic Gazette.*

Resorbine: A New Ointment Base.

Ledermann (*British Journal of Dermatology*) reported to the Berlin Dermatological Society a base which is capable of traversing the skin after moderate rubbing in and which leaves a slight covering layer. It is made with some difficulty after a patented method by emulsifying pure almond oil and a little wax with water and a small percentage of other innocent but necessary vehicles. Resorbine can be mixed with all vegetable and animal fats. It is especially advantageous to add a little lanolin. Its use is indicated in all the hyper and parakeratoses, as ichthyosis and pityriasis, and in scleroderma, in artificial dermatites, ulcerations, rhagades, scabies. It combines well with Neapolitan ointment. The price is about the same as that of lanolin. —*Therapeutic Gazette.*

Inebriety as a Disease.

Dr. R. M. Phelps thus concludes an analytical study of this subject in the *Medical News:*

Our conclusions, then, would be something as follows:

1. We should, for the sake of clearness, not mingle or use interchangeably the words inebriety and irresponsibility; but in the cases in which it can clearly be shown to exist, we should make inebriety mean the drinking and irresponsibility the insanity so produced.

2. Disease should not be carelessly used to mean predisposition, or neurosis; nor should it be used to mean a disease-symptom unless so specified. But when unqualified it should designate a fairly well-defined entity composed of a group of symptoms with known or presumed pathology and causation.

3. Inebriety (excessive drinking) can then be stated to be not a disease, but as tending to produce various diseased conditions.

These conditions are quite general in character, but most notably seen in nerve-failure and brain-failure.

4. The predisposition varies in different persons and constitutes a temptation.

5. Irresponsibility is of varying grade, and the law does not necessarily follow these grades, but adjudges penalty, first, by the consequences of the act, and, secondly, for the safety of society.

6. In our opinion none of the early degrees of inebriety, as a rule, produces sufficient effect to be named disease or irresponsibility. This being true, even if there be a growing mental impairment, we would call the mental state insanity only when it would be so called if induced by other causative conditions.

Insanity as a disease is also subject to this same rule. The name is not applied to all mental changes, but only to those which have a considerable definition. Multitudes of mental impairments are not called insanity at all.—*Ohio Medical Journal.*

The Oxytocic Action of Salicylic Acid and Its Compound with Sodium.

Vineberg concludes an article on this subject as follows:

1. Salicylic acid and its compounds may be found useful in scanty and delayed menstruation.

2. They should not be administered to pregnant women who have a predisposition to abort or who suffer from menorrhagia and metrorrhagia.

3. Their administration should be watched carefully in all cases of pregnancy, and on the appearance of any "show," or anything resembling labor-pains, they should be discontinued.—*New York Medical Journal.*

The Production of Disease by Sewer Air.

Dr. A. Jacobi, of New York, in New York *Med. Jour.*, has lengthy and timely articles on the above subject. He shows that a sewer is not a good breeding-place for pathogenic germs. There is a deficiency of oxygen, an excess of carbonic acid, and many saprophytic germs. These conditions are opposed to the growth and multiplication of pathogenic germs. He further shows that scarlatina, diphtheria, pertussis and diarrhœal diseases have not been lessened in frequency nor in malignancy, by improved sewers. Further, the author does not think that disease germs are likely to be carried in sewer air. They are heavier than the air, and not likely to float in it. In order to float, these germs must be carried by dust. This is not what happens in the case of sewer gas. Dr. Jacobi thinks that putrefaction destroys pathogenous germs. He is also of the opinion that emotion and sentiment, rather than logic and science, have been ruling in this matter of infection by sewer gas. The atmosphere may contain both living and dead germs. They are frequently found in places that are infected; but are not as abundant in sewer air as in that of houses and school-rooms. Moist surfaces, such as the contents of sewers and sewer walls, do not give off germs into the air, unless when splashed, and then they are only carried by the sewer gas for a short time. Sewer gas may be very offensive and irritating, and in this way cause sore throats and catarrhal troubles. As the diphtheria germ is very ubiquitous, it may find a ready

nidus in this way. Putrefaction destroys specific germs. The more offensive the sewer air, the less likely would it be to contain the germs of diphtheria. The germs of typhoid fever and dysentery are not so readily destroyed by putrefaction. These diseases may arise from the exhalations from cesspools, etc., but very seldom come from sewer air. It is therefore the chemical poisons and not the germs that are to be guarded against in the drainage of houses and streets. —*Dominion Med. Monthly.*

Diagnosis of Habitual Headaches of Nasal Origin.

Dr. J. Scheinmann, of Berlin, claims that habitual headache very frequently is of nasal origin. Even in neurasthenia and hysteria he says that headache may be only due to some local nasal affection, and not be a single symptom of the total symptom complex. Grave diseases of the nasal cavities and their appendages may exist for a long time without the patient noticing them, while his headache is terrific, and only by the nasal symptoms becoming more distinct is the attention of the physician called to the true source. Neurasthenics are more easily affected than healthy subjects by these nasal irritations; often their headache is of local origin, and they will be frequently relieved by appropriate local treatment. Most patients with swelling of the mucous membrane of the turbinated bones suffer from more or less headache, and hence, where no known cause can be discovered in a case of headache, he advises examination of the nose, in hysterics and neurasthenics as well. Polypi are also a cause. The pain originates at the root of the nose, and radiates into the eye or the temple, or there is a constant dull pressure over the root of the nose, which often is associated with dull headache. Especially in cases of catarrh, with hypertrophy of the mucous membrane of the turbinated bones, is there a distinct listlessness and inability or loss of desire for mental exertion. Empyema of the maxillary is often accompanied by headache on the corresponding side, and at the root of the nose. There is a constant sensation of pressure at the root of the nose, and often severe neuralgic pains in the frontal region.—*Berliner klinische Wochenschrift—New York Med. Times.*

Treatment of Diabetes with Fluid Extract of Jambul E Cortice.

Dr. Lenne (*Therapeutische Monatshefte*), who had previously reported encouraging results from the use of powder prepared from the fruit of *Syzygium Jambolanum*, has now tried the fluid extract of the bark, according to the method proposed by Vix. Fifteen grains were given in water three times a day from one to two hours after meals.

On February 14th to 15th the patient passed 4,250 cubic centimeters urine, specific gravity 1034, containing a trace of albumin; 5.1 per cent. sugar (216.75 grammes); 3.1 per cent. urea (131.75 grammes); large amount of acetic acid.

Under treatment the patient's weight increased from 43.950 kilogrammes to 45.300 kilogrammes on March 17th. The volume of urine at that time was 3,000 cubic centimeters; the specific gravity, 1031; the percentage of sugar, 3.6 (108 grammes); the percentage of urea, 2.6 (78 grammes). The diminution in the amount of sugar was, however, not constant, reaching as high as 5.3 per cent. on February 22d and again 4.5 per cent. on March 16th. Lenne concludes justly that not the slightest influence of the agent upon metabolism can be recognized. For his part, he thinks that the fluid extract from the bark exerts just as little influence upon the sugar-excreting process of diabetes as does the powdered fruit.—*Therapeutic Gazette.*

A New Treatment of Pulmonary Tuberculosis.

Dr. Cohn, of Hamburg, has found ichthyol very useful in the treatment of pulmonary tuberculosis. He administers the drug in the following form:

℞ Ichthyolis..... } of each, 5 drachms. M.
Aq. destill..... }

The patient begins to take 4 drops of this solution thrice daily, and then the dose is increased by 1 drop daily until the maximum amount of 40 drops three times a day is reached. The best time of administration is before meals. Generally speaking, patients become readily accustomed to the disagreeable taste of ichthyol, but a mouthful or two of black coffee is very efficacious in removing the taste. The ichthyol is said to be very far superior to creasote or cod-liver oil.—*Medical Press and Circular.*

The Treatment of Jaundice.

Dr. M. Alivia, of Viterbo, read a paper before the International Congress on this subject, of which the following were the conclusions:

1. Long-continued biliary stasis, comprising the secreting cells of the parenchyma of the liver and producing a certain anemia of the organ, markedly reduces, and sometimes suppresses, the secretion of the biliary acids. The gravity of the phenomena described under the name of biliary intoxication does not, therefore, depend upon the action of these acids.

2. The scarcity or absence of bile in the intestinal canal modifies very seriously the chemical processes there taking place.

3. One of the most common of the gastric changes in icterus is the suppression of hydrochloric acid secretion.

4. There is little or no loss of carbonate of sodium in these cases.

5. The reaction of the contents of the stomach is usually alkaline, less often neutral or faintly acid.

6. The physiological activity of the bile and of the pancreatic juice in the intestine is retarded.

7. The chlorides in the urine are increased, the reaction of the fluid is often alkaline, there is diminution of urea with an abundance of products of the aromatic series.

8. The more marked are these characters so much the more grave are the disease and its clinical manifestations.

9. Alkaline treatment does not modify these conditions. The effect of the acid treatment is, however, to diminish the chlorides, to restore the normal acidity of urinary reaction, to increase the excretion of urea, and to reduce that of the aromatic products; at the same time there is a progressive increase in the weight of the body.—*N. Y. Med. Record.*

Clinical Studies as to the Influence of Chloroform Inhalation Upon the Kidneys.

Rindskopf (*Centralblatt fur Chirurgie*) gives a report of ninety-three cases of chloroform narcosis. In thirty-one cases, albumin, casts, leucocytes, epithelial cells were found in the urine. In the majority of cases the urine clears up after seventy-two hours. The quantity of chloroform administered greatly influences the character of the urine; chloroform should be given drop by drop continuously.

No case should be repeatedly chloroformed every three or four days, as the kidneys will not have had sufficient time to recover.—*University Med. Magazine.*

Causes of Sexual Debility.

Dr. F. R. Sturgis gives the following summary of his views at the termination of a very instructive paper: 1. That the cases of sexual debility which are marked by imperfect erections and by premature emissions are usually, if not entirely, due to hyperæsthesia of some portion of the urethra. 2. That masturbation has very little, if anything, to do with it, beyond the fact that if indulged in to excess it may induce a tendency toward this hyperæsthetic condition, but this is no more marked in masturbators than it is in those persons who indulge to excess in the venereal act. 3. That organic stricture has little, if anything, to do with it; but that associated with this hyperæsthetic condition there is an irritable condition of the canal which produces spasmodic contractions of the urethra upon attempts to pass instruments, oftentimes during the first act of micturition and at the time of connection. 4. That varicocele plays no unimportant part in these cases. 5. That neuralgia of the testis, if a cause of this disease, induces it merely as a secondary consequence to the pain, which is one of the distinguishing features of this disease. 6. That tuberculosis, syphilis and gonorrhœa may also play their part, and should all be reckoned with in summing up the causes which may induce this peculiar and depressing condition of affairs.—*Gaillard's Med. Journ.*

Treatment of Epithelioma.

Darier (*La Medecine Moderne*) has obtained excellent results with the following dressing: First dry the ulcerated surface, then cauterize with any cautery—thermo-cautery, galvano-cautery, or, still better, chromic acid—and finally use a solution of 1 to 100 of methyl-blue, either in repeated painting or in interstitial injections. Recovery often follows at the end of one or two months. Abadie, from personal observation, believes that the chromic acid is unnecessary, and that the methyl-blue alone is effective. He points out that the improvement is often exceedingly slow, and months may pass without appreciable change, and this probably accounts for the fact that it has been abandoned by many practitioners.—*Therapeutic Gazette.*

A New Hospital Invention.

A new invention called the thermogen is now being tried in several of the English hospitals with marked success. The object is to sustain the heat at a uniform temperature when artificial means are required, and of course its use would be limited to hospitals or institutions where the necessary facilities are easily obtainable. The thermogen consists of a light quilt containing a coil of wire bent in the form of a gridiron, inclosed in insulating and non-conducting material, and imbedded in cotton, wool or other soft substance, with a silk or woolen covering. The heat is produced by the resistance of the coil to the flow through it of the electric current. A uniform temperature of about 150° can be maintained for any length of time, the heat being prevented from going above that by the melting of a fuse which instantly shuts off the current. In those houses lighted by electricity the quilt can be connected with the ordinary incandescent terminals, but the principal use of the quilt would be confined mostly to hospitals, during lengthened operations, or in those attended with hemorrhage. —*N. Y. Med. Times.*

To Abort Syphilis.

Bichloride of mercury (10 grs. to ʒj) painted on a chancre as soon as it appears, kills all specific germs, and there will be no systematic manifestation. Then you only have a local sore to heal. So says the *Medical Summary.*

Vomiting of Pregnancy.

A writer in the *Lancet* says: "I have not failed once for many years, by a single vesication over the fourth and fifth dorsal vertebræ, to put an end at once to the sickness of pregnancy for the whole remaining period of gestation, no matter at what stage I was consulted. The neuralgic toothache, and pruritis pudendi of the puerperal condition yielded as readily, and to one application."

Diabetes.

Unschuld (*Berl. klin. Woch.*) draws attention to some of the less noticed symptoms in early diabetes. He quotes a number of illustrative cases in which the disease was masked by the presence of dyspeptic symptoms, nervous symptoms classed as neurasthenia, etc. Sometimes diabetes may quite accidentally be discovered. Here marked thirst and abundant urine were mostly absent. Frequently cramp in the calves is complained of, a symptom at present but little recognized. During the past eight years the author has found it in as many as 26 per cent. of his cases. In 1891 he found it 33 times among 109 cases. It most often occurs in the morning, but sometimes at night. If such cramps occur and the patient complains of weariness and weakness, the urine should be at once examined for sugar. These cramps may be present in all forms of diabetes, except in the acute disease occurring in young subjects. Massage and attempts at walking generally relieve the cramp. The cause is obscure; perhaps it is due to the diabetic toxins. The recognition of these cramps may lead to the early diagnosis of diabetes.—*British Med. Jour.*

SURGERY.

Compression of the Mammary Glands.

Verneuil (*Bull. et Mem. de la Soc. de Chir. de Paris*) advocates compression of the breast not only in cases of inflammation but also in cystic tumor. He has devised very light stays, made of perforated leather and laced behind. The pressure is easier to apply, more uniform, and more constant than when bandages are used. The patient herself places layers of wool, gradually increased in thickness, between the breast and the apparatus. Verneuil insists that operation is rarely needed in cystic disease of the breasts. He has treated by alkalies, arsenic, and compression two patients who had undergone amputation of one breast, and asked him to remove its fellow. In both cases the remaining breast was cured. He also cured by compression a bad case of hypertrophy of the breasts in a girl of eighteen, where amputation had been proposed.—*British Med. Jour.*

Immediate Repair to Injuries of the Pelvic Floor.

Dr. George M. Boyd reports in the New York *Journal of Obstetrics and Gynecology* 721 cases of completed labor with 117 injuries of the pelvic floor, and in some of these cases, fearing rupture in the perineum or elsewhere, he has been ready to operate and in most of them he operated at once. His conclusions are:

1. As every obstetrical case is greatly a mathematical problem, so is the safety of the pelvic floor; if the passenger is too large for the passageway (something must give), a tear, either vaginal or perineal, will follow.

2. As it is our duty to study all obstetrical cases before labor by palpation and pelvimetry, just as much is it our duty to examine the perineum and vagina after labor.

3. That having any injury to the pelvic floor, it should be at once repaired, and a good method to follow is to perform the operation under constant irrigation, using sterilized Chinese silk for sutures, and avoiding infection of wound by placing the stitches without inserting the finger in the rectum.—*Maryland Med. Jour.*

The Significance of Anuria After Surgical Operations.

We not infrequently hear it said that the case would have done superbly after operation "had not suppression of the urine" set in and cut off life.

This assumption in the vast majority of cases rests on a fallacious foundation, without a shadow of proof to sustain it. Cause is confounded with effect. A capital operation has been performed, a limb has been amputated or a serous cavity opened.

Profound mental shock follows, or acute surgical fever succeeds, the heart's action is tumultuous, the pulse becomes thready and excretion of the urine ceases. This latter phenomenon is always one of serious omen under these circumstances, not because it implies that any pathological changes whatever have seized on the secreting elements of the kidney, but that peripheral death has commenced. The blood-current steadily diminishes in volume; the secretory glands cease to act through want of circulatory supply.

We will observe for some time before the end comes that the lachrymal glands are deficient in action, so that the orbital conjunctiva and cornea become dry and hazy, the tip of the tongue is cool and the mouth dry.

No! suppression of the urine is rarely if ever *per se* a post-operative cause of death. It is simply an evidence of vascular stasis, following on a sinking of the vital powers—a consequence and nothing more.

This term, together with the more modern meaningless makeshift, "heart-failure," should go in the same category, for they both serve as an excuse and cloak for ignorance and nothing more.—*Editorial in Times and Register.*

Indications for Tracheotomy.

Cnopf (*Munch. Med. Woch.*) says that when membrane is present in the larynx two factors have to be reckoned with: (1) Irritation of the respiratory centers and (2) narrowing of the larynx. Since the upper lobes of the lungs are under favorable conditions as regards inspiration, and the lower lobes as regards expiration, distention occurs in the former, atalectasis in the latter. The author's observations extend over 130 cases of laryngeal obstruction in children. On admission the position of the diaphragm was marked out on the chest behind and subsequent variations noted. In 67 cases the diaphragm stood at the tenth rib in 3 cases, at the eleventh in 13, under the eleventh in 13, and at the twelfth in 38. The deepest position of

the diaphragm was thus observed in a majority of cases, and this at all ages. In 112 out of 126 the deep position was noted by the third day, and usually it was present on admission. In tracheotomized cases carefully observed the position of the diaphragm was rapidly raised one space in 12 cases and two spaces in 13. In only 4 cases did the diaphragm remain at the same level after tracheotomy. The position of the diaphragm is thus a measure of the laryngeal stenosis. The question of vesicular breathing and of the pulse must be considered, but with the arrival of the diaphragm at its deepest position the time for tracheotomy has come.—*British Medical Journal.*

HYGIENE.

Poisons on Fruit.

There has been much discussion of late concerning the danger of poisoning from eating fruit which has been sprayed with salts of copper or arsenic to destroy insects or fungi upon the plant.

It is stated that experiments have been carried on for two years at the Michigan Agricultural College with a view of finding out the truth in the matter.

The important question is: Do the poisons penetrate the skin of the fruit? The tests have shown that copper sulphate has passed into the body of the pear, though more of the solution remained upon the skin. If this peel is not a protection, what can be said of the thinner skins, like those of the plum, the cherry, berries, etc.? Dr. Kedzie, who made the analyses, says that horticulturists often use much larger quantities of the poisonous solutions than are necessary to destroy the life of the fungi; one-half or even a third of the quantity generally used would be enough.

It is not safe to eat fruit which has been sprayed with any poisonous salts, for while the poison received into the system from one pound might not be harmful, if no more were taken, repeating the dose may in time result in slow poisoning.

And how are people in the cities to know whether or not their fruit has been sprayed?—*Sanitarian.*

PHYSIOLOGY.

The Migration of the Ovum to the Tube.

Lode, *Archiv fur Gynakologie*, has investigated this interesting subject by a series of experiments upon guinea-pigs. In one experiment he injected fine coal particles into the peritoneal cavity. The animal was killed thirty-six hours afterward and the coal particles were detected in both tubes. In a guinea-pig four months old, in which the sexual organs were not yet fully devoloped, the particles were found only in the fimbria. In another series of experiments he used the ova of the ascaris lumbricoides, as they were larger than the coal particles. The injections were made in the same way into the peritoneal cavity. The examinations of the guinea-pigs killed within a variable period of between thirty-six hours to seven days showed the presence of the ova in large numbers in about the middle portion of the tubes. In a few instances the ova had become glued together, forming a round mass fully the size of the natural ovum of the guinea pig. This was found in the same situation in the tubal canal. The author draws the following conclusions from his investigations:

1. The cilia of the tube of a guinea-pig have the power of setting into motion bodies the size of the ovum of the guinea-pig, providing that the animal has arrived at sexual maturity.

2. The tube is enabled to take up ova not only from the ovary, but also from the free peritoneal cavity. Hence the old theory may be discarded that it is necessary for the tube to be applied to the ovary in order to engage the ovum within its canal. The theory of transmigration—that is, the passage of the ovum from one ovary to the tube on the opposite side—receives new proof by the foregoing experiments.

3. The migration of the ovum is independent of the menstrual period, as none of the animals experimented upon showed any signs of rut, either while alive or at the *post mortem.*

4. The migration is not dependent upon coitus.

5. The ovum travels along the first part of the tube much more rapidly than along the remaining part of the tube.

Lode attributes but a small role in the propulsion of the ovum to the peristaltic movements of the tube.—*Archives of Gynæcology Obstet. and Pediatrics.*

The Use of Ice in Asthma.

Dr. Sangree has succeeded in cutting short a spasm in a severe attack of bronchial asthma by applying ice over the course of the pneumogastric nerve at the root of the neck. Five minutes after the application the spasm relaxed completely, and the patient slept, after having been four days without sleep.—*Bul. Gen. de Therapeut.*

ARMY AND NAVY.

CHANGES IN THE U. S. ARMY FROM OCTOBER 14, 1894, TO OCTOBER 20, 1894.

Leave of absence for one month, with permission to apply to the proper authority for an extension of one month, is granted Captain Eugene L. Swift, Assistant Surgeon, Fort Yates, N. D.

By direction of the Acting Secretary of War, so much of paragraph 1, S.O. 233, A.G.O., October 4, 1894, as directs First Lieutenant Isaac P. Wane, Assistant Surgeon, to report to the commanding officer Camp Eagle Pass, Texas, after his relief from duty at Fort Supply, is so amended as to direct him to report in person to the commanding officer Fort Clark, Texas, for duty at that post.